The Hypoglycemic Association

NEWSLETTER

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The NEWSLETTER of the Hypoglycemic Association is distributed to members of the Association and to Health Professionals with an interest in nutritional medicine and clinical ecology.

FEES: This is the last Newsletter in 1993 and subscription fees are due for most members of the Association. Fees have not changed despite increases in costs. These are \$15 per family or \$10 for pensioners and students. This is an entirely voluntary organisation and the cost of producing this Newsletter and conducting public meetings depends on finance provided by the membership. By supporting this Association you help in educating the public to appreciate the importance of clinical nutrition and ecology, and to encourage doctors to use natural means to restore or promote health among the general population. Looking back over recent years it is obvious that many people have become aware that health is very much a matter of lifestyle, environment and nutrition. Our Association has contributed - as have similar voluntary organisations - in promoting this awareness. Many doctors are already committed to treating their patients through natural health in combination with more traditional medical practice. As an Association we support those doctors and health practitioners but above all our members who seek this kind of treatment, armed with a basic knowledge in natural health. But we still have a long way to go, and therefore it is important that you keep supporting the Hypoglycemic Association by not only sending in your fees but also recruit new members. Please note that the expiry date is in the top right hand corner of the address labels.

Our Next Meeting will be at 1 PM on Saturday, the 4th December, 1993 at the YWCA,

2 Wentworth Ave, Sydney and our guest will speak at 2 PM.

Dr George Samra

will be speaking on the subject

"New Theories on Chronic Fatigue"

DR GEORGE SAMRA is of course wellknown to our members. He is the patron of our Association as well as a pioneer in Nutritional Medicine. It is mainly through the personal effort by Dr George Samra to have the concept of hypoglycemia recognised as a major cause of ill-health and an important factor in human behaviour. Naturally, since the foundation of the Association the concept has broadened to include the whole range of clinical nutrition and ecology, as well as traditional medicine. Dr George Samra is now well-known among probation officers, the judiciary and legal profession in assisting them to determine to what extent a program of rehabilitation can prevent criminal behaviour. Dr Samra will be discussing the latest developments in the area of Chronic Fatigue and that should prove to be very intersting.

Any opinion expressed in this Newsletter does not necessarily reflect the views of the Association.

CHRISTMAS PARTY

Our next meeting on Saturday the 4th December 1993 will start one hour earlier than usual (1 pm) to celebrate our Super Christmas Party. Members and friends are invited. Please bring along a plate of sugar-free foods

Presents: The Committee asks every one to participate in the present Lucky Dip. Bring a wrapped present worth \$5 with you and mark it "male" or "female"; but even if you don't, you won't be disappointed

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Steve Duff telephone advisory service

Our life member Steve Duff is willing to talk to any person by phone on any problems relating to hypoglycemia, allergies and diet. This voluntary advice is based on his personal experiences with hypoglycemia and allergies and any problems of a more complex nature will be referred to nutritional practitioners. If you would like to have a talk with Steve, please ring him at his home on 529-8040.

Books for sale at the meeting

Jur Plesman: **GETTING OFF THE HOOK**Sue Litchfield: **SUE'S COOKBOOK**

Contributions of articles by members and by practitioners are very welcome. If you would like to contribute an article to this Newsletter, please contact the Editor.

The Newcastle branch of the Association are still meeting with the assistance of Bev Cook. They meet on the last Saturday of each

month beginning 1.30 PM to 3.30 PM at the Hillsborough Primary School. Enter the school from the Waratah Avenue. For further information ring Mrs. Bev Cook at 049-59-4369.

Organise local meetings

If any member would like to organise meetings in their local area or meet other members, we can help by advertising your

name and phone number in this Newsletter.

Entrance fee at meetings

Because of increase in costs the Committee has decided to charge an entrance fee of \$2 per person or \$3 per family at our public meetings.

Donations for raffle

One way of increasing our income is by way of raffles. If any member has anything to donate towards the raffle, please contact Dr George Samra's surgery at 32-38 Montgomery, Kogarah.

GENES CAN BE DAMAGED BY DIET

by Roger French from Natural Health Magazine, April/May 1993 page 10

Are many of our modern illnesses inherited rather than the result of lifestyle? The most recent advances in medical science suggest that the answer is 'yes'. Geneticists have so far discovered 600 genes that are disease-related, the diseases including asthma, high blood pressure and some forms of cancer.

However, other studies have found that many natural and man-made chemicals can damage genes and it is the abnormal genes which may cause diseases. Ultimately, then, the cause of such illnesses comes back to lifestyle.

This has enormous significance because lifestyle is within our control, but heredity is not.

Just when orthodox medicine seemed to be coming to accept modern illnesses, the 'diseases of civilisation', are caused by lifestyle, a different trend in scientific discovery is emerging. For disease after disease the 'miracle' of modern science is finding that a gene is associated with the disease and therefore the cause lies not in lifestyle but heredity. We can blame our parents and grandparents for our illnesses rather than ourselves, which frees us of responsibility for our problems.

Unfortunately, an inherited disease is a lot

more difficult to overcome than a disease which requires changes in living habits, so this news is not really good at all.

In February 1993 it was reported in the media that scientists are close to identifying a gene that creates disposition to asthma. The gene accounts for up to 60 percent of allergies found in the population.

High blood pressure was associated with a gene in December 1991 (Sydney Morning Herald, 4 Dec 1991). Although there are known lifestyle causes, including eating too much salt, being overweight and not exercising, the view is now that hypertension is a hereditary disease made worse by unhealthy lifestyle.

Scientists have also found hereditary mutations in genes which make people more susceptible to developing breast, bowel and lung cancers, melanoma, obesity, muscular dystrophy, cystic fibrosis and numerous other diseases. So far 600 genes have been found to be disease-related and there appear to be many more.

The incredible advances in genetic engineering have opened up new medical ways of treating such diseases. Having isolated the problem gene (mutated gene), the options include putting an extra gene to override the defective gene, or using the CSIRO's 'gene shears' technique to snip off and destroy mes-

senger molecules of RNA so that the gene is isolated and has no influence in the cell.

In 1991, American scientists showed for the first time how a toxin can cause specific genetic changes that can lead to cancer. (Nature, March 1991 issue). They pinned down the tiny region of a gene that appears to be altered by the fungal poison, aflatoxin, a well-known hazard in mouldy peanuts and grains. The genetic change then touches off cancerous growths in the liver.

So, genes can be damaged by environmental or lifestyle factors! 'Heridity' is not entirely inherited - some of it is environmental. We can't blame our parents for our diseases after all, as these new discoveries were suggesting; responsibility for illness may well be back with the individual.

It may still be true, for example, that bowel cancer is caused by lack of fibre, lung cancer by smoking, breast cancer by excess fat and, the latest discovery, throat cancer by pickled onions - rather than by our inheritance.

The big question is, having seen that at least some genetic damage is due to toxic substances (like aflatoxin mentioned above), how significant might this damage be? Is the effect of toxic chemicals on our genes trivial or is it massive?

The answer has been provided by brilliant

research undertaken by Michael Fenech of the CSIRO Division of Human Nutrition in Adelaide and presented in an unpublished paper.

Michael Fenech shows that chemicals from diet and environment have a vital role in both causing and reducing genetic damage and also in the onset of degenerative diseases such as cancer. The following is based on his paper.

What is genetic damage?

The code written into the one hundred thousand-odd genes in every bodily cell in each of us provides the instructions for the synthesis of proteins that enable metabolic processes to occur. Alteration to DNA, the main blueprint chemical, is associated with a wide range of diseases, including cancer and defective nerves and muscles. It has also been found that lifespan is strongly related to the level of damage to DNA due to oxidation; the greater the damage, the shorter the lifespan.

Although bodily cells are well equipped to repair most of this genetic (or DNA) damage, the repair processes are usually less than 100 percent efficient, and a significant portion of any population can be expected to have some DNA that has not been repaired.

Even when cells reproduce normally, some background mutation (genetic changes) occur, and any substance that stimulates abnormal tissue growth increases the chance of damage and may thus contribute to an increased risk of genetic damage and cancer. The extent to which diet contributes such substances is currently being investigated around the world.

Works at Flinders University and the CSIRO Division of Human Nutrition shows that increasing age is associated with definite increase in the level of genetic damage, although there is considerable individual variation. The increasing genetic damage could be due to the cumulative effect of (a) free radical damage, (b) dietary chemicals that damage genes, and/or (c) environmental chemicals that change genes. The individual variation could be due to differences in true heredity or lifestyle factors. Identifying diet that may minimise genetic damage is therefore particularly relevant to the prevention of degenerative disease.

Foods have many chemicals that damage genes

During our lifetimes we consume on average approximately 10,500 kg of food (dry weight) and 21,000 litres of fluid, which inevitably supplies us with a lot of potentially mutagenic and carcinogenic substances.

Natural and man-made pesticides

Plants produce a myriad of toxic chemicals to protect themselves from insect pests and grazing animals - natural pesticides. For example, potatoes contain solanine and chaconine (at around 15mg/200g) and tomatoes contain tomatine and tomatidine (at around 36mg/100g).

Natural pesticides that cause cancer in rodents occur in a wide range of foods, some of which are highly nutritious. They include apples, cherries, grapes, pears, plums, oranges, carrots, potatoes, mushrooms and many others. Extremely high levels of these chemicals occur in black pepper, roasted coffee and basil.

So far, only about 50 of these naturally occurring pesticides have been tested for their ability to cause cancer and about half have been found to do so. Fortunately, with the exception of solanine from potatoes, there is little evidence that the natural pesticides accumulate in our bodies.

Surprisingly, man-made pesticides are a relatively tiny proportion of the total pesticides in our food chain. Recent studies have shown that 99.99 percent by weight of ingested pesticides are naturally occurring! The average daily consumption of man-made pesticides is 0.09mg/person/day while that of natural pesticides is 1500mg/person/day.

However, concern about man-made pesticides is justifiable because:

- a) the adverse health effects of some of these chemicals at high intake levels have been clearly shown
- b) some have been shown to accumulate in our bodies to dangerously toxic levels and
- all toxic chemicals are increasing the burden of gene-damaging agents that are already challenging our health.

The development of pest-resistant varieties of fruits and vegetables is not necessarily safer because the pest-resistant varieties usually contain higher levels of natural pesticides that may be harmful to human health. For example, the pest-resistant strain of celery was found to contain 6,200 parts per billion of carcinogenic psoralens instead of the 800 ppb present in normal celery, while a pest-resistant potato had to be withdrawn from the market because of the acute toxicity to humans as a consequence of excessively high levels of solanine and chaconine, which can cause nerve problems.

Genetic damage initiated in the kitchen

There is now strong evidence that cooking produces a significant proportion of the carcinogens in our diet. This usually occurs at temperatures in excess of 150°C (300°F) and/or when food browns. The main categories of these compounds are:

- a) The polynuclear aromatic hydrocarbons (PAHs) produced during charcoal barbecuing of fatty foods
- Heterocyclic amines produced during pan-frying, grilling or roasting of muscle meats, including red meat, fish and chicken
- Browning of carbohydrate-rich foods, such as toasts or cakes produces toxic chemicals such as furfural and glyoxal
- d) Cooking oil heated to high temperature, such as deep frying, results in the pro-

duction of aldehydes such as acrolein, one of the most toxic compounds known.

Not surprisingly, it has been found that bakers and cooks have significantly greater risk of lung cancer because these cooked-food mutagens can be quite volatile.

PAHs are commonly found in smoked and charcoal-barbecued foods. One of the most common carcinogenic ones, benzo(a)pyrene can be as high as 50 ppb in barbecued sausages and 200 ppb in barbecued steak. Ingesting such contaminated meat has been shown to result in a five-fold increase in genes damaged by benzopyrene.

The levels of heterocyclic amines, which can range from less than 1 ppb to 70 ppb, is minimised by shorter cooking time and by keeping the temperature below 150°C. Some of these chemicals are potent bacterial mutagens and capable of causing cancer in primates. Their effects at the levels found in human diets has yet to be demonstrated, although there is some evidence that well-done meat can increase the risk of bowel cancer.

A measure of toxicity of chemicals

Scientists have developed an index that compares the typical daily human consumption to the dose of chemical that induces tumours in 50 percent of rodents. (We express sympathy for the rodents used in this experiments.) It is called the HERP index (Human Exposure: Rodent Potency).

Some examples of foods and chemicals that humans might consume regularly have the following HERP indices. (Note that the higher the number the more damaging and dangerous the chemical.)

One phenobarbital sleeping pill (60mg) = 16.0

Wine (250ml containing alcohol 18ml) = 2.8

One mushroom (15mg) = 0.1

Tap water (1 litre) containing chloroform (83mcg) = 0.001

DDT and DDE (a DDT derivative) (2.2mcg) = 0.0003

PCBs (daily average intake 0.2mcg) = 0.0002

Defences against dietary gene damage

We are well equipped with a defence mechanism against dietary toxins:

- a) Smell and taste detect bitter, acrid, astringent and pungent chemical, providing us with a general warning
- The cells of the mucous lining of the digestive system that come in direct contact with chemicals are continually shed
- Detoxification occurs in the gut and the liver via antioxidants and enzyme (e.g. glutathione transferase) systems
- d) As a last line of defence, cells are capable of repairing their genetic damage, although efficiency is generally less than 100 percent
- e) A good diet provides us with large

amounts of the powerful antioxidants, vitamin C and vitamin E, that protect us from free radical damage, which is similar to that induced by nuclear radiation and is partly responsible for the agerelated increase in genetic damage.

f) Specific foods, such as garlic, have been shown to have powerful anti-cancer effects.

Dietary recommendations

The obvious approach is to reduce the level of natural and man-made toxins in our diets. Apart from reducing the intake of specific chemicals in foods, the actual dose level of gene-damaging chemicals will be reduced if we minimise our food intake. This has, in fact, been shown consistently to delay aging and reduce the incidence of degenerative diseases such as cancer, heart disease and auto-immune disorders in many different mammals. Periodic fasting of one or two days has been

found to extend the lifespan of laboratory rodents.

The practical recommendations are:

- 1) Adopt a varied and balanced diet of unprocessed foods
- Minimise consumption of over-cooked food and/or browned food, avoid deepfried food
- 3) Eat no more than is required
- 4) Avoid toxic man-made chemicals as far as is possible.

ATTENTION PROBLEMS IN CHILDREN

by

Special Education Directorate
Department of School Education
(From Hyperactivity/ADD Newsletter No. 168 May, 1993)

Introduction

Parents and teachers are often concerned with attention problems displayed by children and how these relate to the development of friendships, parent-child relationships, teacher-student relationships and learning in school. Children who show serious problems with attention are often referred to paediatricians, community health centres and psychologists, and are sometimes diagnosed as having Attention Deficit Disorders (ADD).

For parents, medical practitioners, psychologists, educators and the children themselves, the issue and questions surrounding ADD are complex and controversial. They include diagnosis, cause and appropriate interventions. It is important for teachers and parents to work together to bring about positive change in children. This paper is designed to inform and assist this process.

Diagnosis

The term ADD is accepted as a medically described condition affecting children's behaviour. Various diagnostic labels used for this condition have caused controversy and confusion amongst parents and other professionals over the last 50 years.

Traditionally, it was thought that an abnormality existed with the child diagnosed as having ADD. Suggested causes included hyperactivity and minimal brain damage. But within the last 20 years attention in schools has shifted to the observation of specific behaviours, as compared to a child's peers, rath-

er than identifying physical causes.

Assessment of ADD in a child should be based upon many factors including observations conducted across home and school settings with parents, teachers and the child providing information regarding the behaviours of concern.

ADD refers to a collection of symptoms which usually become evident in children from 2-4 years of age. For positive diagnosis of ADD, eight of the following criteria must be present and must have occurred for at least six months:

- often fidgets
- · difficulty remaining seated
- easily distracted
- difficulty awaiting turn
- · blurts out answers
- difficulties following instructions
- no sustained attention
- often moves from one incomplete task to the next
- · cannot play quietly
- · talks excessively
- often interrupts or intrudes
- · does not seem to listen
- often loses necessary items
- engages in physically dangerous activities

While children may exhibit one or more of the above behaviours, this does not mean that they have ADD. Children may exhibit any of these behaviours during their development and what must be taken into consideration is:

· the intensity, duration and pervasive-

ness of the behaviours,

- that the behaviours are exhibited across home and school settings and
- that there is no other explanation for the behaviours (i.e., class/home management, instructional programming, emotional difficulties).

Prevalence

Surveys using samples of children in the general population have shown great variability. It appears that between 5% and 10% of school-aged children display attentional problems. It is generally agreed that the disorder occurs more frequently in boys than in girls with ratios ranging from 3:1 to 9:1.

Causes

Early suggestions about ADD were that neurological damage resulting from head injury or illness was its primary cause. These assumptions have been dismissed as most brain injured children do not show ADD symptoms.

Environmental toxins or allergens such as food additives, sugar and lead also have been proposed as causes of ADD. Many well controlled investigations have studied the effects of these substances but little evidence has been found to establish their link with ADD.1

One of the more promising areas of current research is the investigation of genetic factors and ADD. It would be appear that two factors may be operating: the natural variation of biological characteristics and some, as yet, unspecified way for Attention Deficit Disorder symptoms to be inherited.

It is apparent that the cause of ADD remains unclear. In an educational setting it is most appropriate to focus on the child's learning needs regardless of the cause of ADD. Teachers can implement effective teaching and behaviour programs. These are the most powerful strategies in meeting a child's learning needs in the school setting.

Associated problems

A variety of problems is frequently associated with ADD including:

- · learning difficulties
- · resistance to authority figures
- physical aggressiveness and/or conduct disturbances
- · poor peer relationships

Evidence indicates a significant overlap between ADD and learning difficulties. ADD is not a learning difficulty, but it is a disorder associated with learning difficulties. The relationship between learning difficulties and ADD is still unclear.

The most significant problems associated with ADD are aggressive and antisocial behaviours. Between 30% and 90% of children diagnosed with ADD have significant conduct problems. These difficulties are often related to inattentiveness, over-activity and impulsivity.

The children require adult attention at home and at school for behaviours such as non-compliance, excessive and inappropriate verbalisations, not completing or attending to tasks, and disturbing other children. In addition, their intrusiveness and bossiness, coupled at times with aggressive behaviour and poor social skills, lead to unsatisfactory peer relations and often to outright peer rejection.

Adolescents with ADD may experience difficulties in school because of the increased number of teachers involved in delivering secondary school education, the short duration of class periods, greater emphasis on individual self-control, organisation and responsibility for completion of assignments.

Intervention methods

Given the difficulties associated with ADD and the long term nature of the disorder, a variety of interventions needs to be provided by professionals, including parents, and implemented across home and school settings. No single intervention method is sufficient to produce either short or long-term behavioural change. Thus intervention could include:

- behavioural management programs implemented across school and home
- individual academic instruction
- · social skills training
- behaviour management procedures
- cognitive training
- medication (if appropriate and monitored across home and school settings).

Behaviour management

Some management strategies which have

- been found to be successful for children with ADD include:
- combining the efforts of school and parents to improve children's classroom behaviour
- providing frequent verbal (positive and negative) and nonverbal feedback, especially when the student complies
- awarding or removing tokens/points to children, depending on specific desirable or undesirable behaviours
- using classmates of the ADD child as peer supports
- removing the child from the classroom and positive reinforcement for a brief period
- use of positive reinforcement
- reinforcing appropriate behaviour with social and tangible praise
- use of prompts

Medication

The most frequent intervention for ADD is the prescription by physicians of medication, typically Ritalin. Such medication treatment is always undertaken with caution. Although beneficial short term effects, such as improved ability to sustain attention have been demonstrated for approximately 70-80% of ADD students, the remainder experience either adverse effects or no effects.

According to the National Health and Medical Research Council in 1990: a number of criteria should be established id medication is to be used

- medication should never be the sole treatment, but rather part of a comprehensive management program which also addresses either child and environment-related factors such as development weakness, teaching strategies, classroom placement and curriculum content;
- medication should only be prescribed after full assessment, ideally multidisciplinary in nature, which includes parental input as well as input from paediatricneurological, neuro-development, psychological/psychiatric and educational perspectives;
- medication should be prescribed on a trial basis only, with frequent monitoring of school performance and time spent off medication to re-asses behaviour and learning; and
- 4) medication should not be used as a substitute for cognitive-behavioural therapies with their emphasis on child-centred coping strategies and self-monitoring techniques, as well as parent counselling.

Communication among all professionals, including parents is critical to the evaluation of medication treatment and to the overall care, well-being and long term management of students with ADD.

Patricka Sheiles of North Sydney would like to meet fellow members of the Association with a view to starting a discussion group to share common problems associated with hypoglycemia. Interested members should contact Patricka at 954-4948.

For further information on Attention Deficit Disorder contact:

School Principal or Cluster Director Department of School Education Regional and school-based Special Education, Guidance and Student Welfare personnel

Special Education Directorate
(02) 561-1000
Children's Hospital
(02) 519-0466
The Learning Difficulty Coalition

(02) 545-1505

1 Here we have a typical example of denial, probably due to the children being studied in groups rather than individually

Vitamin A under attack

New regulation under the Therapeutic Goods Act, 1989 limits the amounts of vitamin A (Retinol) available to the public to 5,000 IU's (International Units) per tablet/capsule as from January 1994 (in NSW). This is half the amount that is still on the market now. Supplements with greater than 5,000 IU's will be obtainable on prescription only!

The reason behind this legislation appears to be a concern with the use of vitamin A in pregnant women and, in future, preparations containing vitamin A will also show a label warning consumers that vitamin A above the recommended Dietary Intake (RDI) of 2,500 IU's may cause birth defects.

World-wide over the last 20 years, there have been a total of 18 individual pregnancies in which a possible association between excessive vitamin A intake and foetal abnormalities has been suggested. In these studies women took vitamin A ranging from 25,000 to 500.000 IU or 10 to 200 times the RDI.

What is not mentioned is that a deficiency of vitamin A, that is less than 2,200 IU per day may cause birth defects and that in 1983 a survey showed that 50% of women did not receive the RDI (2,5000 IU) for vitamin A. Other studies have shown that preparations containing 6,000 IU of vitamin A tends to lower the overall incidence of birth defects.¹

Thus vitamin A, along with comfrey and tryptophan has been placed in the sin-bin.

(Continued on page 7)

Getting to know the opposite sex

Part 2

by Jur Plesman

Some of the quotations were obtained from SBS documentary, 21 March 1993 under the title **BRAIN SEX**

Breakdown of marriage through infidelity

A typical story is when the husband leaves the wife just as when she has fallen pregnant with their child. The first signs usually are that he would never initiate sex, yet complain that he was not getting any. When she would try to initiate it, he would have an excuse. Then she would soon discover that her husband is having an affair with another woman. He would try to convince his wife that he was just friends with the other woman and nothing more. She would accept this more because she wanted to believe him badly and save the marriage. But all too often an attempt at reconciliation between the couple is bound to fail, especially when the other woman makes a claim on the husband by carrying his child as well.

This traumatic experience is often hard to understand by a woman. Yet many suspect that the man became sexually bored with her and that he had a need to make sexual conquests of other women. However, these explanations will do little to make her feel better, as they really point towards her personal inadequacies. But why should a woman blame herself; she could partially blame biology.

Male sex hormones: the thin end of the wedge

Dr Helmuth Nyborg¹ believes that the highs and lows of marriage may be due to the flow of the male hormone testosterone - the treacherous tides of masculinity!

Nyborg: "Males with high levels of testosterone have more divorces. If a woman chooses a man with high testosterone, he will score higher on psychoticism scales, which means he does not care much about other people, he wants it all his way. He is sort of egoistic. But he might be a very good lover."

Women too produces a small amount of male hormones; men don't have the monopoly on testosterone or on adultery!

Helen Fisher: "Women adultery in America peak at the age of 35 to 40. This is the time when the level of oestrogen - that tends to nullify testosterone - begins to go down."

"Is it a coincidence", she asks, "that levels of testosterone that are proportionally higher as a women age, in fact, increase their drive for autonomy, for rank and for sex?"

And male sexual phantasies

Male sexual hormones are not the only ones that lie along the voyage of matrimony. Studies of male sexual phantasies reveal a secrete inner restlessness in men, according to Glen Wilson.

He says: "You get closer to the biological truth when you are investigating phantasies, because there are no reality constraints whatsoever. Most people who are married have commitments, they can not get what they want and what we are interested in is what people really want. That comes in dreams and phantasies. Asking thousands of Britons about their inner most desires, this is what Wilson found:

Men had twice as many phantasies as women. Men were three times more likely to phantasize group sex or sex with a stranger. Married men and women said they liked more sex, but while women wanted more intimacy from their partner, men were twice as likely to want sex with another woman.

Not much has changed among the new generation

What about the children reared by the sexual revolutionaries in the sixties? Has liberation bred and conditioned a generation with different sexual attitudes?

Glen Wilson: "In some of the fundamental differences between men and women, particularly the interest in polygamy and promiscuity, the contrast between them has not shifted at all, because they are biologically powered. My research shows that the generation has not changed at all."

He goes on to illustrate the eternal search for novelty of the male sex drive by an anecdote about the Coolidge effect. It supposedly relates to the American 30th President Calvin Coolidge (term of office August, 1923 - March, 1929) and his wife Grace Coolidge, who visited a chicken farm. They were taken on separate tours and upon being shown the chicken pen, Mrs Coolidge was very impressed to discover that the rooster performed its duty many times a day. So she said: "Tell that to the president".

When the president was duly informed of

this, he was initially very stirred, but said: "Wait a minute...is that with the same hen each time?"

"Oh, no Mr President, that is with a different hen each time"

President: "Tell that to Mrs Coolidge."

Helen Fisher: "We all suspect that men and women like different things in the bedroom. If you simply walk down the street, you can actually see the difference. Men buy girly magazines, they are interested in visual things, they are interested in sex gadgets, in sexy panties and sexy pictures of women. They like the light on in the bedroom and all kinds of variety there. Women tend to like to be stroked, to be touched, to be talked to. Men court women with words, women court men with sexy clothing. We know this instinctively!"

Farm animals are not easy to fool; studs get tired of the same females, but human males are prepared to fool themselves. There is a thriving sex business to titillate the phantasies of males, lingery to take home for their wife, naughty films and gadgets all designed to introduce variations in his sexual partner.

Glen Wilson talking about the fading away of passion in marriage:

"It is virtually impossible to maintain romance and passion throughout a very long marriage. It is a nice phantasy so it is better to work on somebody with whom you can develop a friendship, which can take over from where the passion and the romance lifts off. One can of course maintain the romance by working at it."

The blessings of old age

Age brings a biological blessing. The tides and tempests of our hormones recede and grow calm. Women and men come more and more to resemble each other. Men become less ambitious as their testosterone - the hormone of aggression - fades.

In women the ovaries stop making the female hormones, which until now have neutralised the small amount of male hormone they continue to produce. Women become more confident and assertive and seek new challenges. Men suddenly discover what women always knew; that there is more to life than the pursuit of money and success. They also

discover a relationship with their grand-children they never had quite time for with their sons and daughters. When the hormones levels flatten men and women will be more equal, except for one last brain-sex difference, which sets a final challenge.

Sex brain differences in the elderly

The corpus callosum - that bundle of nerves connecting the two halves of the brain - is again the centre of attention.

Sandra Witelson² measures the corpus callosum in male and female brains. Her sample ranges from 25 to 70 years of age at death.

Sandra Witelson: "What we found is that the corpus callosum is gradually getting smaller, starting from the earliest age that I was able to look at. But this only seems to be true in men."

So the mental skills to make connections and to concentrate at many things at the same time are doomed to decline in the aging brains of men.

Ruben Gur conducting similar studies said: "Men lose brain cells as a function of age a lot faster than women. The amount of loss in elderly men is about three-fold compared to what we see in women. The loss of cells was more in the outer areas of the brain - the cortex. This is the part of the brain associated with higher cognitive functions, whereas in women it was equally in both the cortex and in the inside of the brain. Thus we may expect that there are sex difference with men losing cognitive abilities at a greater rate."

Thus older men tend to become "absentminded" and it may well pay them to practise remembering. They may tend to prefer watching the news (visual activity) in contrast to women who may take up reading. On the other hand, with men feeling less the need to compete they find many new friends.

Comments

This approach has important implications in the understanding and perhaps treatment of sexual offenders where the success rate is dismal, perhaps due to the exclusive concentration on the learning model of human aberrant sexual behaviour. It is known that people with high levels of histamine (made from histidine) - the so-called histadelics - have a high sex drive, capacity to drink a lot of alcohol, need less sleep and have fluctuating blood sugar levels. High histamine levels can be reduced by taking methionine (an amino acid rich in many foods such as pork, liver, Brazils, cheese and various fish), which is said to methylate histamine, and pangamic acid or calcium pangamate or B15 (high in cabbage) also reduces high histamine levels.³ Sexual offenders often suffer from lack of impulse control - a classic symptom of the hypoglycemic syndrome - which can be boosted by adopting the hypoglycemic diet.⁴ These biochemical conditions should be treated by health practitioners familiar with clinical nutrition. It is then when the offender is ready to

undertake a course in self-development including improving his self-image, assertiveness training or social skills in general.⁵

The biological approach refers back to our mammalian ancestry, when the dominant bull fought for the possession of his herd. In the human domain, however, it is not so much individual males fighting one another, as groups of males doing battle. In other words, we have an explanation for the tendency of people to return to tribalism as in Yugoslavia, Somalia and many other parts of the world! In tribal fights, males are often rewarded with raping women belonging to the "enemy" tribe. Thus in the horrors of war and in the break down of civilisation the biological sex differences often come to the surface and seem to rule human conduct. In the absence of war, these sex differences find harmless expression in a great variety of competitive tribal sports activities, where in terms of our analogy teams of men under the direction of a "bull" battle other teams, with females gawking on the side-lines. In human economic and/or political activities, for example in parliament, groupings seem to be formed along similar tribal patterns and this may well explain why many women feel uneasy in that environment more suitable to males.

Biologically, women appear to feel more comfortable as members of a cooperative group such as a family. Their natural verbal skills and greater sensitivity to feelings seem to contribute to group cohesion and they tend to avoid competition and social friction. It is therefore significant that feminism strives to achieve equality for women through education.

The biological approach to human behaviour base their theories on the mammalian animal model. Its proponents could well commit the same error as followers of behaviourism, and assume that all behaviour is based on a simple principle of social learning or biology. For example, the distinction between "sex" and "gender" is somewhat blurred.

Yet, the biological viewpoint recognizes the evolutionary development of frontal lobes and a highly complex cortex of the brain, which gives the human animal a means to learn from experiences and to control his primitive impulses emanating from the hypothalamus, pituitary glands, testes, ovaries and endocrine system. Presumably, the human brain can construct concepts of "civilisation", which aims at reconciling conflicting interests. Thus both the learning concept and biology may explain how people living in groups arrive at their "morals" that underpin their behaviour and sense of civilisation. When that civilisation, including the system of communally shared ethics, breaks down a more primitive level of behaviour emerges, just as in marriage. Hence, women and men have a vital stake in maintaining and promoting "civilisation" or the sharing of common beliefs.

Conclusion

A picture emerges of two species of human beings - male and female - cohabiting this planet. Gender differences have been recognised throughout the ages regardless of geography, race and culture. Somehow, these differences have been exploited by the more aggressive species to dominate the other. But a difference does not imply superiority. Feminism sees education as a great liberator and studies show that as women become more educated they gain control over their bodies and status in society.

However, once the socially engineered restrictions on women is removed we are still left with sex differences that affect behaviour, abilities and cognitive skills. Recognition of this is bound to lead to new attitudes in gender relationships. Respect for innate divergent skills of the sexes may well have survival values.

A lesson to be learned from a study of biology is that although instinct driven differences lurk below seemingly peaceful relations between men and women, these relations can be improved by:

- the sexes acknowledging biological differences
- children being taught sex differences in perception and thinking such as taught by Marian Diamond
- greater emphasis being placed on learning verbal skills and communication in education
- allowing each individual the choice to develop their inborn skills and abilities according to or regardless of his/her sex
- recognising that division of labour in the maintenance of a family unit is not necessarily in conflict with the axioms of feminism
- realising that ultimately the sharing of values transcends these biological differences and that these can be taught through a course in ethics or values clarification

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(Continued from page 5)

Vitamin A deficiency affects nearly every organ in the body. One of the first symptoms is night blindness. Other symptoms are: xerosis, loss of sense of smell, fatigue, skin blemishes, sties in the eye, diarrhoea and may lead to rapid loss of vitamin C. Instead of vitamin A take carotene, high in carrots, green leafy vegetables, spinach and broccoli, to avoid vitamin A toxicity.

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