Editorial

Components of an Ideal Schizophrenia Treatment

According to Dr. Philip S. Wang, instructor in medicine at Brigham and Women's Hospital in Boston, and in health care policy at Harvard Medical School of those Americans with serious mental illness, eight million (15%) fail to receive adequate treatment. This is based on a study in the early 1990s of adults who participated in the National Co-morbidity Survey. Results are published in the *American Journal of Public Health*, January, 92:92-98, 2002. If these figures are correct it means that 55 million, or 20% of the population, are mentally ill. The title of this paper is "Adequacy of Treatment for Serious Mental Illness in the United States," but after reading this paper very carefully it is clear that the title is wrong. It should have been "How Many Seriously Ill Mental Patients are Getting Psychiatric treatment." For this is not a paper about the quality of the treatment or the response to treatment. It is merely an accountants report of how many patients got any treatment at all.

Treatment was considered adequate if patients received a prescription for an appropriate medication and had four or more visits with a physician or if they had eight visits with any kind of mental health professional. The authors admitted that their study had little to do with adequacy of response when they wrote, "Although adherence to certain recommendations in evidence-based treatment guidelines has been demonstrated to lead to improved clinical outcomes, we are not aware of studies that have validated our exact definition of minimally adequate treatment. As a result of the non random use of treatments in our study population, we could not investigate whether receipt of our definition of minimally adequate care was associated with improved health outcomes." Definition of improvement has always been a sticky subject for psychiatrists. Thus the word "cure" does not appear in standard psychiatric dictionaries. With a loose definition almost anything one does in treating patients can lead to the conclusion that the patient has been improved as a result. This has been applied to psychotherapy, to a variety of therapies and to medication. But if one uses a very rigid standard then it becomes simpler and at the same more difficult to claim adequacy of treatment. Adequate surely means the following: (1) that the patient is free of signs and symptoms; (2) that the patient gets on well with family and the community and; (3) that the patient is a normal member of society, is working, paying income tax, or engaged in non renumerative useful activities. This is the definition that I use. An example is the young man who came to me two years ago from the United States after his family had been told that he would never get well, that he would never be free of drugs and that he would never graduate from grade 12. Of course that was correct advice had he remained on medication only. Today he is well, free of symptoms and signs, has a good relationship with family and community. After the recent September 11 crisis in New York, he and his friends volunteered to help direct traffic. He is now in University and fully functional. He is not yet off medication but is on only a fraction of what he was taking before. Medication alone, and here I refer to the tranquilizers, both the earlier ones and the modern ones, seldom leads to this type of recovery. I am sure that if a patient reached that state of recovery his psychiatrist would write a report about it, extolling the use of the drugs.

Even the most enthusiastic of therapists with drugs will claim less that 40% improvement. Two years ago at a public hearing in Seattle a psychiatrist testified before an open hearing that he had treated 10,000 schizophrenic patients and that none had gotten well. He was correct and honest to admit this. The modern tranquilizers have about the same therapeutic value as the older drugs which were

developed nearly fifty years ago and although it is said they have fewer side effects I have not seen this. They do not have fewer, they have different side effects and some of them are worse that the ones induced by the older drugs. The question then arises whether schizophrenic patients would be better off without any medication at all. In other words the large proportion of patients in the United States who were not treated might have been better off in the long run.

There are four main aspects to what I call the ideal treatment: (1) Shelter; by this I mean decent shelter not the street, nor run down shelters too commonly used today; (2) Good food, not the kind of food available on the streets and even in hospitals. Even if the hospital food were adequate patients are seldom kept in long enough to benefit from the food; (3)kindness, decency, humanity, self respect and all those aspects of a relationship that make life worthwhile; (4) Orthomolecular treatment; receiving the proper use of nutrients in optimum doses combined with drugs as needed and not as the permanent solution.

A comparison study was completed at the Massachusetts Mental Health Center in Boston where a cohort of patients treated before tranquilizers were introduced was compared with a cohort ten years later who were on medication. The earlier group were better off, fewer were unemployed. The first three components of the ideal treatment maximizes the natural recovery rate of schizophrenia which is higher than most doctors realize. The Quakers in 1850, using Moral Treatment which included all these three factors. reported a fifty percent recovery rate as did the first Dorothea Lynde Dix Hospitals built in New York State, around the same time. But modern psychiatry does not provide the first three and uses only drugs and these appear to improve the patient but to freeze him in a permanent state of tranquilizer psychosis from which he can be extricated only with great difficulty. Therefore it is possible that patients not receiving modern psychiatric treatment but allowed to live in good shelters, eat good food and treated with resect, will do better than those placed on medication.

Orthomolecular patients who receive all four components should expect over 90% recovery. The use of nutrition and vitamins and minerals does not inhibit natural recovery rates. I do not suggest that patients should not be treated. I suggest most strongly that they be treated early and vigorously with the ideal treatment. We need a study comparing the outcome of not receiving any treatment against an equivalent group receiving the modern tranquilizer therapy. I remain frustrated that so few are given the benefit of the ideal treatment.

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Designing a Better Cigarette: A Role for Selenium Supplementation

Canadian television and newspapers are currently running Health Canada advertisements that appear to draw heavily on the "popaganda" guerilla billboard art of Ron English.[1] These Federal advertisements depict three morgue cadavers, below which in bold type is the caption "Over 45,000 Canadians die each year from smoking. That's more than 45,000 reasons to get tough on tobacco." Former Health Minister Allan Rock dubbed smoking a "national evil," seeing it as Canada's greatest public-health problem. In consequence, the federal government has been waging an aggressive anti-tobacco campaign which is one of the world's toughest.[3]

The basic aims of this programme are to keep young adults from beginning to smoke, to encourage smokers to stop and to raise general public awareness of the dangers inherent in second-hand smoke. A diversity of strategies have been employed to achieve these three objectives.[4] Most significantly the Tobacco Act, Bill C-71, was

passed into law in the Spring of 1977. This legislation, was amended in 1998 and 2000, placed stringent restrictions on the Canadian tobacco industry, banning advertising and the sponsorships of arts and sporting events and forcing the printing of large health warnings on cigarette packets.[5] The latter now include gruesome photographs of smoking-related disease victims. This Act also requires companies to report their sales figures, marketing strategies and new campaigns to the federal government and forces them to publically reveal the toxic content of tobacco and its additives.

This aggressive Canadian federal anti-tobacco campaign appears to be having an impact on smoking incidence. In the first half of 2001, only 23 percent of Canadians aged 15 years and over were smokers, demonstrating a continuation of the steady decline that has occurred since 1965 when half of the adult population smoked.[6] The government is not satisfied and is aiming to reduce the national adult smoking rate to 20 percent by 2011. This goal appears well within reach. Evidence of the pain being felt by the Canadian tobacco industry is shown by its mid January 2002 attempt to challenge the legality of the Tobacco Act.[3] Rothmans, Benson & Hedges Inc., JTI - Macdonald Corp. and Imperial Tobacco Canada Inc. are claiming that this legislation violates their constitutional rights to free speech. The case, being heard in Quebec Superior Court, is expected to last until the fall of 2002.

As with almost all hazards, it is likely that the early mitigation gains will have been the easiest to make. As a result, regardless of government policy initiatives, there is likely to remain a core group of dedicated smokers, who because of addiction or other reasons[7] will never give up tobacco. For them, avoiding the hazard is not an option. What is required is a "healthier" cigarette which carries a lower risk of causing disease.

At least one company, Vector Tobacco Inc., is trying to capture the market consisting of smokers who cannot, or will not, give up their habit, but are afraid of its health consequences. As a result, Omni cigarettes[8] are now being promoted as "the first premium cigarette created to significantly reduce carcinogenic PAHs, nitrosamines, catechols, and organics, which are the major causes of lung cancer in smokers"[9] Whether or not such cigarettes will reduce lung cancer incidence is unclear, since as the accompanying Surgeon General's warning points out, "Reductions in carcinogens (PAHs, nitrosamines, catechols and organics) have NOT been proven to result in a safer cigarette". Nevertheless, it is clear that what is needed is a cigarette that is much less likely to promote lung cancer in those who continue to smoke.

The knowledge required to manufacture such a product appears available. In December 1996, Clark and colleagues[10] reported on the results of the first selenium randomized clinical double-blind trial conducted in the Western world. In this decade-long, clinical intervention trial with 1,312 older Americans it was found that daily oral supplementation of Se-enriched yeast (200 mcg Se/day) resulted in "significant reductions, in comparison to gender-matched controls, in the incidence of total cancer (41%), total carcinomas (46%), cancers of the lung (46%), colon-rectum (64%) and prostate (69%), as well as total cancer mortality rate (51%)." Such mitigation was consistent over time and between study clinics. It is clear, therefore, that selenium, if taken as a yeast supplement, can almost halve the incidence of lung cancer.

There may, however, be more to the relationship than this. Bogden and coworkers[11] analyzed tobaccos from countries with both low and high lung cancer incidences. Although levels of cigarette smoke tar and nicotine varied very little geographically, mean selenium concentrations found in tobaccos from high lung

cancer incidence countries (0.16+/- 0.05 mcg/g) were significally lower than those found in tobaccos where lung cancer incidence rates were depressed (0.49+/-0.22 mcg/g). Simply put, the incidence rates for lung cancer were strongly inversely proportional to the amount of selenium in the local tobaccos being smoked.

Why this is the case appears to have been established by Chortyk and colleagues[12] who added various levels of sodium selenite to cigarettes to discover whether or not it effected the mutagenicity of mainstream and sidestream smoke. Using the Ames test these researchers were able to show that "On the average, addition of 10 mcgs of Se produced mutagenicity reductions of about 50%. Higher levels of added Se yielded further reductions." This inverse relationship between mutagenicity and cigarette selenium content was found in both mainstream and sidestream smoke. Why this association occurs is unclear although it has been demonstrated by Gairola[13] that cadmium-enriched tobacco induces greater than normal cytological and biochemical alterations in rat lungs. Since selenium is a cadmium antagonist, high selenium levels in cigarettes may protect against some of the adverse biochemical impacts of cadmium.[14] There may be other reasons, of course, why selenium in cigarette tobacco is protective against lung cancer.

It seems very likely, therefore, that the addition of selenium to tobacco, either through enriched fertilizer or directly during the manufacturing process, could significantly reduce the negative health impacts of smoking amongst those individuals who will not or cannot give up the habit. Mandating this would be a useful additional strategy in the Canadian federal government's anti-tobacco campaign.

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