Orthomolecular Psychiatry: Niacin and Megavitamin Therapy

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Although the world's literature on the etiology and treatment of schizophrenia is staggeringly voluminous, in practice the treatment of schizophrenia is limited to variations of individual and group therapy, institutionalization, the psychotropic drugs and shock treatments. Although the phenothiazine drugs come close to being truly anti-psychotic and anti-schizophrenic in their action[1] none of the other therapies are specific for schizophrenia, and many authorities feel that none of the commonly used treatments specifically alter the basic illness itself. Therapeutic nihilists point out that scientifically controlled studies[2-8] show that neither psychotherapy nor the shock therapies significantly alter the outcome of the illness and they would like to characterize the phenothiazines as "chemical straight-jackets". Yet any clinician working daily with a schizophrenic patient knows that any of the above often play a critically helpful part at a specific time in a patient's illness and are often life-saving. The clinician is therefore guided in his daily work with patients by the demonstrated response and clinical usefulness of a procedure.

Although the artificial dichotomy between psyche and soma still splits segments of the psychiatric profession into opposing factions[9], the main stream of young psychiatry today tends toward eclecticism.

Over the years a great many biochemical variations and abnormalities have been described in populations of schizophrenic patients. Despite the voluminous literature, very little of practical usefulness has emerged. Partly because of this, in recent years the work of Hoffer and Osmond and others have begun to attract attention, and a new therapeutic approach in psychiatry has been developing termed "Orthomolecular Psychiatry" by Professor Linus Pauling in 1968. This treatment method is based upon altering levels of chemicals normally present in the body. Pauling defined Orthomolecular therapy as "the treatment of mental disease by the provision of the optimum molecular environment for the mind, especially the optimum concentrations of substances normally present in the human body."[10] In treating schizophrenia with this orientation it is implied that schizophrenia is a group of illnesses with different biochemical variations and as each biochemical abnormality is discovered and corrected an increasing percentage of patients will recover.

The original work of Hoffer and Osmond which was published as the first double blind study conducted in North America indicated that the addition of three grams a day of vitamin B-3 to the treatment regimen of schizophrenics roughly doubled the recovery rate, halved the rehospitalization rate and practically eliminated suicide in the treatment group. These results were reported in five, ten and fifteen year follow-ups[11-17]. In recent years widely separated clinical investigators who have tried this treatment method have reported similarly beneficial results[18-42]. Although there are numerous studies reporting negative results with all the treatments commonly used in psychiatry for schizophrenia, thus far there have been no negative reports anywhere in the literature about this particular treatment method. In the last few years, in addition to using large doses of vitamin B-3, clinicians have been adding high doses of ascorbic acid. This is based on studies which indicate that schizophrenics can take up to 40 grams per day of ascorbic acid before it spills over in the urine and they apparently need larger daily doses than normals[43-48].

Other reports have indicated that functional hypoglycemia is present in a very significant percentage of patients and that correction of this abnormal carbohydrate metabolism by the use of sugar-free diets further increases the recovery rate[49-58]. Danziger and others have demonstrated that a certain percentage of schizophrenic patients will greatly improve or recover on high dosage thyroid and this too is now included in some treatment regimens for specific patients[56-61]. Recently Pfieffer has demonstrated that schizophrenic patients may be divided into

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high histamine and low histamine groups and that the two groups respond differently to megavitamin therapy[62-67].

At the present time clinicians practicing Orthomolecular Psychiatry are using a combination approach which varies from patient to patient depending upon the biochemical peculiarities of the given case and which often includes high doses of niacin or niacinamide, ascorbic acid, pyridoxine, vitamin E, thyroid, vitamin B12, hypoglycemic and cereal free diets, daily physical exercise, lithium, the phenothiazines and also the commonly used tranquilizers and antidepressants[68-83]. Often this approach is combined with the group therapy of Schizophrenics Anonymous which was the first sizable patient group to utilize this overall combined treatment approach[84-87].

Most psychiatrists using the Orthomolecular approach view schizophrenia as a group of diseases in which various biochemical abnormalities alter the molecular operation of the mind in such a way as to result in perceptual distortions[88-100]. The perceptual distortions are basic to the illness and demonstratable in every case. The severity of the illness are its course and response to treatment is monitored by the HOD (Hoffer-Osmond Diagnostic), EWI (Experimental World Inventory), and OIT (Organic Integrity) tests. These have been demonstrated to be more accurate than clinical diagnosis and highly efficient tools[100-110].

In early 1966 we began trying this biochemical treatment approach at the North Nassau Mental Health Center in Manhasset, New York with schizophrenic alcoholic out-patients. The results were favorable and encouraging so that we began using it in ever increasing numbers of schizophrenic patients and reported our results. Since then we have treated over 2,000 schizophrenic patients utilizing Orthomolecular therapy with increasingly satisfactory results.

Although many hospitals and institutions are now utilizing this approach with in-patients, the first hospital in the United States to institute this treatment method on any wide scale for all of its schizophrenic patients was the Brunswick Hospital in Amityville, Long Island, New York[111]. This approach was instituted in 1966 and at the same time a study was conducted by the Brunswick Hospital to demonstrate the usefulness of the organic integrity test (OIT) and the Hoffer-Osmond Diagnostic Test (HOD) to rapidly diagnose and monitor the course of the patient's illness and response to treatment.

The most recently conducted study at the hospital, which was just concluded and which is being reported here for the first time, is a follow-up study to demonstrate what effect the addition of megavitamins would have upon the rehospitalization rate of schizophrenics following discharge from the hospital.

This study covered a two-year period during which 160 patients were followed up following discharge from the hospital. In all of these patients the diagnosis of schizophrenia was clearcut. The sample consisted of 94 female and 66 male patients with a median age of 28. While in the hospital all patients received phenothiazines plus megavitamins which included pyridoxine at a minimum daily dose of 50 mgs, ascorbic acid 4 grams daily and either niacin or niacinamid in daily doses of 4 to 10 grams. At the time of discharge the megavitamins were discontinued in 85 cases and the remaining patients took the megavitamins for either three months, six months or one year. During the course of the study of the 85 patients in whom megavitamins were discontinued at the time of discharge 30 patients were rehospitalized (35%). Those patients in whom the medication was continued for three to ten months had a readmission rate of 25%. Of those patients who were continued on the megavitamins for one year or over (57 patients) only nine patients were readmitted (16%). The X^2 score value for this comparison is in excess of 5.99 required for significance at the 0.05 level. This study establishes a definite correlation between the continuation of megavitamin therapy and a 50% lower readmission rate than patients in the control group. Because of the limitations of this study, which was done with private patients discharged from a private hospital there were many variables which could not be controlled[112]. Therefore, an absolute causal relationship will have to be demonstrated by future studies and it is hoped that these findings will stimulate other institutions and research centers to investigate further the value of this type of treatment approach.

CONCLUSION

A brief outline of the concept of Orthomolecular Psychiatry and its clinical application to schizophrenia has been described. This approach utilizes an overall biochemical as well as pharmacologic approach in an attempt to

correct either demonstrated or hypothesized biochemical abnormalities.

An aftercare study including 160 patients in whom half were continued on megavitamin therapy is described and a correlation was established showing that the relapse rate amongst the megavitamin therapy group was approximately ½ that of the control group. These findings suggest that further investigations of this therapeutic approach are warranted and as Professor Pauling has stated, "Orthomolecular Therapy may be found to be of great value and may turn out to be the best method of treatment for many patients."

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