

YOGA AND PSYCHOSIS : RISKS AND THERAPEUTIC POTENTIAL

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There is a strong interest in the correlation between yoga (especially meditation) and psychosis. Some reports have described: (1) appearance of psychotic symptoms for the first time after meditation, (2) precipitation of acute psychotic episodes in those with a history of psychosis, after meditation, and (3) conversely, there have also been reports of psychotherapeutic benefits for psychotics, especially schizophrenics, practicing yoga. This report reviews the literature and presents in brief, the results of two trials conducted by us to determine the therapeutic benefits of yoga in the management of chronic schizophrenia. The overall impression is that for the 6 months duration of follow up studied, chronic schizophrenics respond well to activity in the form of physical training. Also the emphasis on relaxation and awareness of internal sensations which are an essential part of yoga may not be so useful for schizophrenics.

Meditation has been gaining popularity as a psychotherapeutic intervention (Frith, Stevens, Johnstone & Crow, 1979). However adverse effects of meditation have also been reported, viz. depersonalization, altered reality testing, and the appearance of previously repressed, highly changed memories and conflicts (Glueck & Stroebel, 1976; Kennedy, 1976). Similar adverse responses were reported in a single subject several weeks after initiation into Transcendental Meditation (French, Schmid & Ingalls, 1975). Another report described how acute psychotic episodes were precipitated by intensive meditation in patients with a history of schizophrenia (Lasarus, 1976). A subsequent study attempted to analyze the correlation between contemplation and psychosis (Chan-Ob & Boonyanaruthee, 1999). Observations were made in three patients who presented psychotic symptoms subsequent to practice of meditation. In two of them sleep loss following a "wrong doing" of meditation was found to be the main cause and drug withdrawal was the principal factor in the third case. Also, in the case of Qigong, a Chinese meditation, a series of psychological and physiological disturbances followed inappropriate training (Xu, 1994). Some patients experienced a range of physical and mental symptoms which came to be called 'Qigong deviation syndrome,' which disappeared after the exercise was stopped. In traditional yoga texts, it has been mentioned that "by a mistaken course of yoga the yogi brings upon himself all diseases" (Hatha Yoga Pradipika (2:16). *Ayuktabyasa yogena sarvaroga samudbhavaha*) Vishnudevananda, 1999).

However, in another report, yoga was found to be one of the three beneficial non-verbal expressive programs given to psychotic patients (Jordan, 1989). Patients showed better sociability, decreased anxiety

and there were no emotional excesses. The yoga practice included breathing and physical postures, but no meditation.

In a prospective one year follow-up study of 23 chronic schizophrenics (nine females, with ages between 25 and 48 years) in a half way home (Raghuraj, Nagarathna, Saraswathi, Nunn & Telles, 2000), we evaluated the effects of slow yoga breathing practices (one hour a day, for five days in a week) and a meditation techniques, derived from the *Mandukya Upanisad* (cyclic meditation, one hour a day for five days in a week). Unstructured observations made by the therapists of the center were supplemented by polygraph recordings of the skin resistance level, as the electrodermal activity has already been widely studied in schizophrenics (Frith, Stevens, Johnstone & Crow, 1979; Walsh & Roche, 1979).

A combination of the observations made by the therapists and the subjective reports of the patients showed that during the experience of eyes closed relaxation the patients entered into an introspective state which was both revealing (giving them insights into their thoughts and feelings) but also very disturbing. Close support and supervision allowed the experiment to continue while patients were under the observation of the therapists and a psychiatrist. Following two months of this initial phase, till one year was complete, patients had fewer episodes of being agitated and disturbed. Simultaneously there was a significant reduction in skin resistance fluctuation level value [FV] recorded at the beginning and end of a year ($p < .01$, t test for paired data), where FV = the difference between the maximum and minimum recorded skin resistance level values sampled every 20 seconds during a 30 minute section (see Table 1 for autonomic and respiratory values at baseline and after one year of practice). In different reports extremes in the FV have been associated with positive or negative symptoms in schizophrenics (Walsh & Roche, 1979; Zahen, Carpenter & McGlahan, 1981).

Table 1
Autonomic and respiratory variables in chronic schizophrenics at the beginning and end of 1 year of yoga

		Heart rate (bpm)	Breath rate (cpm)	Skin	
				Resistance Level (Kohms)	Fluctuation Value (FV)
Baseline	Mean	62.6	12.9	269.7	209.4
	S.E.M.	±4.1	±1.3	±51.2	±56.4
1 year	Mean	66.7	14.7	262.5	61.5*
	S.E.M.	±4.2	±1.1	±30.0	±13.8

* $P < .01$, t test for paired data (baseline versus after 1 year)

The limitation of this study was that there was no control group. Hence a single blind randomized cross-over trial was carried out on another group of 28 chronic schizophrenics diagnosed based on DSM-IV. The chronic schizophrenics were considered as matched pairs (matched for age, gender, and scores on 4 sub-sections of the MMPI (i.e., psychosis, defense, paranoia, and depression). Patients belonging to a pair were randomly assigned to two interventions (yoga and physical training). Assessments were at baseline and three months, followed by a cross-over. The final assessment was at 6 months. Patients were assessed for the clinical evaluation of symptoms, and neuropsychological tests (e.g., cancellation tests, card sorting, the Benton test for line orientation, and trail making test). Patients were also given a test for joint position sense. Joint position sense is measured with the participants blindfolded, to avoid relying on non-kinesthetic and visual cues. A study done elsewhere showed that schizophrenics were deficient in the ability to monitor ongoing motor behavior on the basis of internal self generated cues (Malenka, Angel, Hampton & Berger, 1982). Patients who practices physical activity before the cross-over showed a significant decrease in errors in right hand position sense ($p < .02$, Wilcoxon signed ranks test). The observation of the therapists also reported a greater decrease in symptoms and better level of functioning in daily life as well as based on the performance in the neuropsychological tests (interpreted as better attention, cognitive flexibility, and spatial orientation) following the physical activity program.

Hence the results showed that schizophrenics performed better following physical activity compared to yoga. However, there was no report of significant adverse effects in patients from both groups while practicing yoga. These results suggest that for the 6 months duration of follow up studied, chronic schizophrenics respond well to activity in the form of physical training. Also, the emphasis on relaxation, and awareness of internal sensations which are an essential part of yoga may not be so useful for them.

REFERENCES

- Chan-Ob, T. & Boonyanaruthee, V. Meditation in association with psychosis. *J Med Assoc Thai*, 1999, 82(9): 925-930.
- French, A.P., Schmid, A.C. & Ingalls, E. (1975). Transcendental Meditation, altered reality testing, and behavioral change: A case report. *Journal of Nervous and Mental Diseases*, 161(1), 55-58.
- Frith, C.D., Stevens, M., Johnstone, E.C. & Crow, T.J. (1979). Skin conductance responsivity during acute episodes of schizophrenia as a predictor of symptomatic improvement. *Psychological Medicine*, 9, 101-106.
- Glueck, B.C. & Stroebel, C.F. (1976). Biofeedback and meditation in the treatment of psychiatric illness. *Comprehensive Psychiatry*, 16, 303-321.
- Jordan, N. (1989). Psychotherapy with expressive techniques in psychotic patients. *Acta Psiquiatria y Psicologica de America Latina*, 35(1-2), 55-60.

- Kennedy, R. (1976). Self induced depolarization syndrome. *American Journal of Psychiatry*, 133, 1326-1328.
- Lasarus, A.A. (1976). Psychiatric problems precipitated by Transcendental Meditation. *Psychological Reports*, 10, 39-74.
- Malenka, R.C., Angel, R.W., Hampton, B. & Berger, P.A. (1982). Impaired central error-correcting behavior in schizophrenia. *Archives of General psychiatry*, 39(1), 101-107.
- Raghuraj, P., Nagarathna R., Saraswathi, A., Nunn, H. & Telles, S. Effects of yoga on Schizophrenics. Proceedings of the international symposium on 'Innovations in Psychiatric Rehabilitation', Bangalore. The Richmond Fellowship Society (Indian Chapter).
- Vishnudevananda, Swami. (1999) Hatha Yoga Pradeepika. New Delhi: Motilal Banarsidass.
- Walsh, R. & Roche, L. (1979) Precipitation of acute psychiatric episodes by intensive meditation in individuals with a history of schizophrenia. *American Journal of Psychiatry*, 136, 1085-1086.
- Xu, S.H. (1994). Psychophysiological reactions associated with Qigong therapy. *Chinese Medical Journal (English)*, 107(3), 230-233.
- Zahen, T.F., Carpenter, W.T. & McGlahan, T.H. (1981) Autonomic nervous system activity in acute schizophrenia. *Archives of General Psychiatry*, 38, 260-266.

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