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Yoga-based intervention for caregivers of outpatients with psychosis: A randomized controlled pilot study

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ABSTRACT

Purpose of the study: The use of yoga as an intervention for caregivers of patients with psychosis has been poorly studied. The current study aimed to test the efficacy of a brief yoga program as an intervention in caregivers of outpatients with functional psychotic disorders using a randomized controlled research design.

Materials and methods: Caregivers who agreed to participate in the study ($n = 29$) were randomized into yoga ($n = 15$) or wait-list group ($n = 14$). They were assessed at baseline and at the end of 3 months. Patients who were randomized into the yoga group were offered supervised yoga training thrice a week for 4 weeks, after which they were instructed to practice at home for the next 2 months. Due to the small sample size and some variables not being normally distributed, non-parametric statistical analysis was used.

Results: Results showed significantly reduced burden scores and improved quality of life scores in the yoga group as compared to the wait-list group at the end of 3 months. There were no significant changes in anxiety and depression scores in caregivers, or psychopathology scores in patients.

Conclusion: In caregivers of outpatients with functional psychosis, 4 weeks of training followed by 3 months of home practice of a yoga module offered significant advantage over waitlist. Yoga can be offered as an intervention for caregivers of patients with severe mental disorders. Methods of providing yoga intervention closer to the community or use of flexible modules at hospitals needs further study.

1. Introduction

The prevalence of psychosis (including schizophrenia) is consistently reported to be more than 1% throughout the world. As well as the strain on financial and health care resources, psychosis leads to social and psychological anguish for patients and their families, which is difficult to measure. Caregivers of patients with any illness have been found to have higher levels of stress and depression, and more likely to have lower levels of subjective well-being, physical health, and self-efficacy than non-caregivers (Pinquart and Sorensen, 2003). Among chronic diseases, caregivers of patients with schizophrenia have been reported to have higher subjective and objective burden than caregivers of patients with physical illnesses, particularly in families with poor social support (Magliano et al., 2005). This highlights the need for interventions for these caregivers.

Yoga has been found to be useful in many physical and mental disorders, particularly those associated with stress, and specific yoga modules have been designed for stress reduction and depression (Naveen et al., 2010). Yoga has been shown to be an effective treatment for dysthymia (Janakiramaiah et al., 1998) and major depression (Janakiramaiah et al., 2000).

Several studies have looked at yoga as a stress-relief package for caregivers of patients with dementia. A pilot study of yoga and meditation intervention for dementia caregiver stress (Waelde et al., 2004) found pre/post comparisons leading to statistically significant reductions in depression and anxiety and improvements in perceived self-efficacy. Another feasibility study of the effect of yoga on the physical health and coping of informal caregivers randomized 17 caregivers of patients with disabilities into yoga or control group (Van Puymbroeck et al., 2007). The study found that yoga training was feasible but required testing in a larger sample for its efficacy. However, these studies were not

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specific to patients with psychosis, and the needs of these caregivers may be quite different. Jagannathan et al. conducted a randomized controlled trial of yoga as an intervention for caregivers of inpatients with schizophrenia (Jagannathan, 2010). This methodologically sound study randomized consenting caregivers into four interventional groups; a brief yoga program, psychosocial intervention, combined yoga and psychosocial intervention, and waitlist. The results did not show any significant differences in the reduction of burden and improvement of coping among the caregivers in the four study groups. However, the inpatient population in this study may not represent the majority of patients with psychosis. We are not aware of any study specifically looking at yoga intervention in caregivers of outpatients with psychosis.

In this context, we studied the effects of a structured yoga module for caregivers of outpatients with psychosis on their burden, depression, anxiety, and quality of life.

2. Materials and methods

The study was conducted in the department of Psychiatry at the National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore. The patients were recruited from the outpatient services of NIMHANS. Specific exclusion and inclusion criteria were used to recruit the patients. The Institutional Ethics Committee approved the study. The study was registered with the Clinical Trial Registry of India with number CTRI/2011/06/001792.

Primary caregivers (aged between 18 and 60 years) of outpatients diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder with psychosis according to ICD 10 (WHO, 1992) were included. They were excluded if the patients had been ill for less than 3 months, or if the caregiver suffered from any severe psychiatric or neurological illness, or were caring for more than one relative with psychiatric illness. They were also excluded if they had undergone any structured yoga program previously. Caregivers who gave informed consent were evaluated with a socio-demographic data sheet (developed for the present study), the M.I.N.I International Neuropsychiatric Interview (Sheehan et al., 1998), the Burden Assessment Schedule (BAS) (Thara et al., 1998), the Hospital Anxiety Depression Scale (Zigmond and Snaith, 1983), the WHO Quality of Life – Brief Questionnaire (WHOQOL – BREF) (Szabo, 1996), and a Yoga Performance Assessment Scale developed for the present study. The patients with psychosis were assessed with the Positive and Negative Scale for Schizophrenia – PANSS (Kay and Opler, 1987), the Indian Disability Evaluation and Assessment Scale – IDEAS (IPS, 2000), and the Social Occupational Function Scale – SOFS (Saraswat et al., 2006).

2.1. Procedure

Patients diagnosed with schizophrenia, schizoaffective disorder, and psychotic bipolar disorder (diagnosed according to ICD 10), attending the out patient services of NIMHANS were screened for the study. In keeping with the above inclusion and exclusion criteria, a total of 525 patients and their caregivers were screened for the study between 1st November 2010 and 14th March, 2012. 39 caregivers were not eligible to participate in the study, and 456 caregivers did not consent to participate in the study citing various reasons such as distance and lack of time (Table 1). All patients who were screened were explained about the study procedure. Finally, 29 caregivers who gave their written consent to participate in the study and completed baseline assessments were randomized into either yoga or control group. The randomization chart was generated from www.randomization.com. The randomized numbers were written in chits and kept in sealed envelopes. After the subjects agreed to participate in the study and completed written consent, the envelope was opened to divulge their randomization.

Table 1
Reasons cited by the respondents for inability to participate in the study.

Total number of caregivers screened	525	
Number of caregivers who refused to participate in the study	456	
Reasons	Frequency	Percentage
Centre is far away from residence	197	43.20
Do not have the time to attend classes	151	33.11
Time offered for classes are not convenient	42	9.21
Do not have any stress	31	6.80
Already leant Yoga	12	2.63
Physical ailments	10	2.19
Others	13	2.85

2.1.1. Yoga group

The patients who were randomized to the yoga group were expected to attend 3 sessions a week for 4 weeks at NIMHANS where they were taught a set of Yogic practices (45-min module – see Appendix 1 for components) based on the Self-Management of Excessive Tension (SMET) (Nagendra and Nagarathna, 2008) by a trained yoga instructor. Bus passes/travel charges were provided to the caregivers for the classes to encourage attendance. After 4 weeks of training, these caregivers were asked to continue practicing regularly at home and were asked to maintain a register of the number of days they were able to practice.

2.1.2. Control group

Caregivers in this group did not receive yoga intervention. Instead they were available for assessments in the 3-month period. Yoga intervention was offered to them at the end of the 3-month period if they were interested.

2.2. Data analysis

Since the sample size was relatively small, non-parametric tests were used for analysis. The data were analyzed statistically using 2 independent samples and 2 related samples tests. SPSS Version 13.0 was used for analysis. The results were compared at baseline, after 1 month of yoga training, and at the end of 3 months. The significance level was fixed at 0.05.

3. Results

3.1. Demographic variables

Of the 525 caregivers screened, 29 caregivers consented to participate and completed the baseline assessments. 18 caregivers (case: 7, control: 11) completed all three follow-ups. Two subjects follow up could not be completed. Out of the 9 caregivers who dropped out, 7 were in yoga group and 2 were in control group.

The yoga and control groups were comparable on socio-demographic variables such as age ($Z = -0.764$, sig. = 0.445) and gender (M:F 6:9 and 6:10, $\chi^2 = 0.42$, sig. = 0.52), whereas the subjects in yoga group had more years of education than the control group ($Z = -2.0$, sig. = 0.045).

There were no significant differences between subjects who dropped out and those who completed, with respect to age ($Z = -0.094$, sig. = 0.925), education ($Z = -0.546$, sig. = 0.594), and gender of subjects ($\chi^2 = 0.008$, sig. = 0.930).