Original Article

Preksha Meditation and Mental Health in Elderly

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Abstract

Background: Ageing, though a graceful period, is associated with problems related physical and mental health, social isolation and financial crunch.

Aims: Present study aims to evaluate the efficacy of Preksha Meditation (PM) in promoting mental health in elderly population.

Methods: This was a prospective, randomized, case control study on 58 subjects (37 males and 21 females) who were administered a PM training module for 4 months. Individual measurements were carried out at the baseline and after 4 months of practice in almost similar conditions. Two standard psychological evaluation tools were used i.e. WHO Quality of Life-BREF (WHOQOL-BREF) and Hospital Anxiety and Depression Score (HADS).

Results: Following 4 months practice of PM there was an improvement in all domains of WHOQOL-BREF ranging from 3 point to 5.7 i.e. psychological health (29.3%), physical health (24.1%), social health (12.1%) and environmental health (29.3%) and in stress level (17.2%). There was improvement in depression in 7 of 12 subjects and in anxiety in 6 of 8 subjects.

Conclusions: Preksha Meditation is a cost-effective, non-invasive intervention with minimal risk of adverse effects and can be safely recommended for promotion of mental health in elderly.

Key words: Elderly, Mental health, Preksha Meditation, Anxiety, Depression

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INTRODUCTION

Health in elderly is a major public health issue across the globe including that in India. Life expectancy is constantly increasing. Most developed world countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person.[1,2] However, United Nations has identified cut-off of 60+ years to refer to the older population.[1] The elderly population (aged 60 years or above) in India accounted for 7.4% of the total population in 2001, 8.6% (104 million; 53 million females and 51 million males) in 2011 and has been projected to increase to 19% by the year 2050.[3] However, a longer life not necessarily corresponds to a healthier life.[4] Old age is associated with gradual decline in physical as well as mental health.[5] Though medical advances have been able to control communicable diseases to a significant level, non-communicable diseases such as cancer, myocardial infarction, hypertension, diabetes mellitus, stroke and lung diseases are on rise. Life style modifications are important issues in controlling non-communicable diseases.

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The rapid urbanization and societal modernization has brought in its wake a breakdown in family values and the framework of family support, economic insecurity, inadequate facilities for health care, social isolation, and elderly abuse leading to a host of psychological illnesses.[3,6] A cross sectional study based on the General Health Questionnaire-12 (GHQ-12) conducted from rural areas of Karnataka observed that 33.9% of the geriatric population was above the threshold for mental illness. The commonest disorder was depression (21.9%) followed by cognitive impairment (16.3%) and generalized anxiety (10.7%).[7] In another study from Gujarat, 107 of 310 (34.5%) elderly attending a geriatric clinic were having psychiatric co-morbidity.[8] The most common diagnosis was depression (20%) followed by substance related disorders (4.9%), sleep related disorders (3.9%), adjustment disorders (3.2%) and neurocognitive disorders (1.9%). It is essential to look into curative as well as well as preventive measures to address such a huge burden of mental health problems in elderly.

The concept of mental well-being refers to optimal psychological functioning and experience.[9] It is a positive state of well being, and springs the emotional and spiritual resilience, which is important for personal fulfilment, and which enables us to survive in pain, dissatisfaction, disappointment and sadness.[2] Apart from availability of basic needs and physical fitness, social, financial, environmental, and emotional factors are important determinant of mental health. Current change in social and economic structure with no agreed model of care has further strained the elderly. Unlikely in the past, stress is more on individual efforts rather than on interpersonal relationship or community support.

The practice of meditation is an ancient Indian way of life to attain the highest level of consciousness and includes changes in mental attitude and often coupled with *asanas* (postures) and breathing practices (pranayamas).[10,11] It is simple to perform and often practiced in a quiet, peaceful setting. The word yoga has been often used interchangeably with meditation in the literature. However, former lays more emphasis on *asanas* and later is more connected to spiritual growth and enlightenment**.** The use of meditation and yoga is becoming increasingly popular among older adult to bring happiness, relaxation and health in their life and for aging-related chronic conditions such as back pain, arthritis, anxiety, stress, depression, and cancer.[2,9,12]

Till recently, meditation was the teaching of religious gurus that was believed by his disciples and general public. Lack of physical evidences is responsible for its diminishing acceptance and popularity. Various modalities adopted to investigate meditation are psychosocial evidences (through questionnaire), biochemical and hormonal assays, imaging techniques (CT, fMRI, SPECT, PET, etc) and electrophysiological studies (EEG, evoked potentials, galvanic skin resistance, etc). All these techniques have their own merits and limitations.

Presently many meditation techniques are being practiced. However, all of them can be grouped into two basic approaches- concentrative meditations and mindfulness/insight meditations. Concentration meditation, e.g. transcendental meditation (TM) aims at single pointed focus on some sound, image or sensation to still the mind and achieve greater awareness. Mindfulness meditation e.g. vipassana and zen meditation on the other hand involves opening up or becoming more alert to the continuous passing stream of thoughts, images, emotions and sensations without identifying oneself with them. 'Preksha Meditation' (PM) is a special type of meditation propounded by Acharya Mahaprajna, the Jain Monk, in 1978 as a remedy for the mankind suffering from stress, tension, frustration, depression and ill health.[2] Though primarily a mindfulness practice, it has element of concentration also. It aims at awakening one's own mind resulting in changes in attitude, personality, behaviour and emotion. It has eight components which are used in different combinations i.e. kayotsarg (relaxation), anteryatra (internal trip), swas preksha (perception of breathing), shareer preksha (perception of body), chaitanya kendra preksha (perception of psychic centers), lesya dhyana (perception of psychic colors), anupreksha (contemplation), bhavana (positive feelings).

Objectives

This study aims to study effects of Preksha Meditation (PM) on quality of life and changes in psychological parameters in elderly population.

MATERIAL AND METHODS

This was a prospective, randomized, case control study to measure the effect of Preksha meditation (PM) on elderly subjects of either gender. Subjects attending Regional Geriatric Centre (RGC), Mathura Das Mathur Hospital Jodhpur for health check-up or as an attendant were explained the study protocol and were requested to enrol in the study. Their demographic data were recorded on a pre-structured proforma. Participants completed a basic demographic

questionnaire including age and date of birth, gender, marital status, occupation, income, education and past experience with yoga. A complete physical examination, review of medical records and activities of daily living (ADL) were recorded. Basic systemic and neurological examination was done in all subjects.

Inclusion Criteria

1. Age ≥ 60 years of either gender.
2. Novice for meditation
3. Signed informed consent given after explaining purpose of study.
4. Physically fit for meditation training and willingness to continue it.

Exclusion Criteria

1. Neurological, cognitive and physical disabled to the extent of not able to do effective meditation and undergo various tests of study.
2. Those already practicing yoga.
3. Those participants whose health significantly deteriorates because of any acute illness during study period.

Intervention

A module of PM was given in a well-equipped Meditation Hall at Geriatric Centre at Jodhpur to all participants as a group meditation. This was given in a session of 30 minutes on alternate days for one month. All participants were instructed to practice the same at home between the classes. Subsequently they were instructed to carry it at home for next 3 months. During this 3 months period, they also attended a minimum 5 sessions at Meditation Centre with a view to assess compliance to intervention and correction in practice if needed. During the period of study they continued performing routine and treatment plan if any.

Components of Preksha Module: This 30 minutes PM module was administered to all participants by a trained teacher as follows;

i. Mahapran Dhavani: It is a subtle type of sound and to produce this, subjects were instructed to inhale long and then exhale and while exhaling they have to produce a sound like buzzing bee. While producing sound, subjects were instructed to concentrate on their head and try to feel vibrations there. This sound was repeated for nine to eleven times. **5 min**

ii. Kayotsarg (Relaxation): Subjects were then instructed to practice relaxation. During Kayotsarg, they were instructed to relax each part of their body one by one from toe to the upper part of head and then suggested to experience the whole body got relaxed. **5 min**

iii. Long breathing: Subjects were instructed to inhale and exhale deeply for 5 minutes. The concentration was completely on breathing. While inhaling they had to concentrate on the expansion of stomach and while exhaling they had to concentrate on the contraction of stomach. **5 min**

iv. Perception of colour (Leshya-Dhyan): They were suggested to visualize green color with eye closed around them including in the air. After that they were instructed to perceive it to diffuse into brain. After visualizing the green color in brain they had to recite mentally that their brain has calmed down. **15 min**

The session of meditation was concluded with recitation of three times Mahapran Dhvani as above and subjects were instructed to leave the room quietly.

Observations

Individual measurements were carried out at the meditation centre at baseline, before starting the meditation program, and after 4 months of practice in almost similar conditions. Two standard psychological evaluation tools were used i.e. WHO Quality of Life-BREF (WHOQOL-BREF) and Hospital Anxiety and Depression Score (HADS).[13,14]

i. WHOQOL-BREF is a standardized comprehensive instrument for assessment of QOL and has been developed by the WHO. It is a shorter version of the original instrument and is more convenient for use in research studies and clinical trials.[14] This instrument comprises 26 items, which measures the individual's perception of quality of life for the four domains i.e. (i) physical health (7 items), (ii) psychological health (6 items) which deals with questions relating to feelings, self esteem, spirituality, thinking, learning, memory etc, (iii) social relationships (3 items) which has questions relating to problems in interpersonal relationships, social support etc which could be the main source of stress and (iv) environmental health (8 items) which has questions related to financial resources, physical safety, physical environment such as pollution, noise, climate etc. In addition, WHOQOL-BREF includes two questions for 'overall quality of life' and 'general health' facets. Each domain scores are scaled in a positive direction (i.e.,

higher scores denote better quality of life). The range of scores is 4-20 for each domain. The scale has good discriminate validity with good test retest reliability.[13]

ii. HADS is a reliable self-assessment scale for detecting states of depression and anxiety in outpatient clinic settings.[14] It is a fourteen item scale with seven of the items relating to anxiety and seven to depression. Each item is scored from 0-3 with a minimal and maximal score between 0 and 21 for either anxiety or depression.

Statistical analysis: The data generated were entered in excel sheet and analysed. The initial values for each parameter were compared with the final values obtained at 4 months.

RESULT

Of the 63 subjects enrolled, 5 of them could not complete the study as they had to leave the station because of pressing family problems. Thus at the close of study, 58 participants completed the study and their data were analysed further. None of the participants discontinued the study period because of any adverse events. Majority of subjects were male (63.8%) below the age of 70 years (Table 1). Most of them were married (87.9%) and staying with family. Of the 21 females 17 were engaged in household work and remaining 4 were pensioners.

Table 1: Age and gender distribution

Age (years)	Male	Female	Total
	Number	Number	Number
60-69	25	18	43
70-79	12	3	15
Total	37 (63.8%)	21 (36.2%)	58 (100%)

Changes in physical health domain of WHOQOL-BREF: A higher score signifies better physical health. Following 4 months of meditation practice, there was 5 point increase in physical health score from average 67.8 to 72.5 (Table 2). Improvement in physical health domain was evident in 14 of 58 (24.1%) subjects. This improvement was more evident in people with initial lower score.

Changes in psychological health domain of WHOQOL-BREF: A higher score signifies better psychological health. Following 4 months of meditation, there was 6 point increase in psychological health score from average 63.8 to 69.5 (Table 3). Following 4 months of meditation, an improvement was observed in 17 subjects (29.3%). This improvement was more evident in people with initial lower score.

Table 2: Changes in physical health domain of WHOQOL-BREF with 4 months of intervention

Score at beginning of study			Score at 4 Months			
Group/ Score	No	Average	25-50	51-75	76-100	Average
25-50	10	35.8	7/10	2/10	1/10	49.0
51-75	29	67.3	1/29	17/29	11/29	72.6
76-100	19	85.6	1/19	2/19	16/19	84.1
Total	58	67.8	9/58	21/58	28/58	72.3

Table 3: Changes in psychological health of WHOQOL-BREF with 4 months of intervention

Score at start of study			Score at 4 Months			
Group/ Score	No	Average score	19-49	50-74	75-100	Average score
25-50	11	37.6	4/11	6/11	1/11	50.8
51-75	29	62.1	0/29	19/29	10/29	69.3
76-100	18	82.6	0/18	3/18	15/18	81.2
Total	58	63.8	4/58	28/58	26/58	69.5

Changes in social health domain of WHOQOL-BREF: A higher score signifies better social health. Following 4 months of meditation, there was 6 point increase in social health from average score of 64.8 to 70.3 (Table 4). Improvement in social health domain was evident in 7 of 58 (12.1%) subjects. This improvement was more evident in people with initial lower score.

Table 4: Changes in social health domain of WHOQOL-BREF with 4 months of intervention

Score at start of study			Score at 4 Months			
Group/ Score	No	Average score	25-49	50-74	75-100	Average score
25-49	10	29.6	6/10	3/10	1/10	45.2
50-74	21	59.5	0/21	18/21	3/21	65.5
75-100	27	82.6	0/27	1/27	26/27	81.2
Total	58	64.8	5/58	21/58	30/58	70.3

Changes in environment health domain of WHOQOL-BREF: A higher score signifies better environmental health. Following 4 months of meditation, there was 3 point increase in this domain from average 71.5 to 74.6 (Table 5). Improvement in environmental health domain was evident in 17 of 58 (29.3%) subjects. This improvement was more evident in people with initial lower score.

Table 5: Changes in environmental health of WHOQOL-BREF with 4 months of intervention

Score at start of study			Score at 4 Months			
Group/ Score	No	Average score	40-59	60-79	80-99	Average score
40-59	14	53.4	7/14	7/14	0/14	59.9
60-79	30	72.2	1/30	19/30	10/30	76.2
80-99	14	88.0	0/14	1/14	13/14	85.6
Total	58	71.5	8/58	27/58	23/58	74.6

Changes in General Health Questionnaire scoring of WHO: A higher score in this test signifies higher level of stress on general health (Table 6). Following 4 months of meditation practice, there was improvement in stress level in 10 of 58 (17.2%) subjects. In 2 subjects, psychological stress deteriorated to a small extent. Improvement was seen more often in participants with initial higher level of stress.

Table 6: Changes in General Health Questionnaire scoring with 4 months of intervention

GHQ Scoring at start of study		Score at 4 Months		
Group	No	Low	Typical	Severe
Low (1-10)	43	41/43	2/43	0/43
Typical (11-12)	6	4/6	2/6	0/6
Severe (13-15)	9	3/9	3/9	3/9
Total	58	48/58	7/58	3/58

Depression: Overt depression was observed in 12 subjects (20.7%) of which 10 had mild and 2 had moderate depression on assessment with HADS depression scale (Table 7). Following 4 months of meditation, an improvement was evident in 7 of them.

Table 7: Changes in HADS Depression scoring with 4 months of intervention

Score at start of study		Score at 4 Months		
Group	No	No	Mild	Moderate
No depression (0-7)	46	45/46	1/46	0/46
Mild (8-15)	10	6/10	4/10	0/10
Moderate (>15)	2	0/2	1/2	1/2
Total	58	52/58	5/58	1/58

Anxiety: Overt but mild anxiety was observed in 8 subjects (13.8%) on HADS anxiety scale (Table 8). Following 4 months of meditation, there was relief in anxiety in 6 of them. However, there was aggravation in anxiety in one subject with mild anxiety.

Table 8: Changes in HADS Anxiety scoring with 4 months of intervention

Score at start of study		Score at 4 Months		
Group	No	No	Mild	Moderate
No anxiety	50	50/50	0/50	0/50
Mild	8	6/8	1/8	1/8
Total	58	56/58	1/58	1/58

DISCUSSION

Ageing is a natural process, which presents a unique challenge for all sections of the society.[15] With improvement in health-care, life expectancy has increased and thus the percentage of the elderly population. It's important to note that older adults make important contributions to society as family members, volunteers and as active participants in the workforce. An ageing population tends to have a higher prevalence of chronic diseases, physical disabilities, mental illnesses and other co-morbidities.[16] Prevention and control of health problems of elderly necessitates a multifaceted approach incorporating active collaboration of health, social welfare, rural/urban development and legal sectors.[1] Meditation provides inner tranquility and attaining of higher state of consciousness.[17] It is easy to learn and that produces great relaxation, heighted awareness and more efficient performance. Studies on meditation practitioners have reported positive impact on intelligence, attention, learning ability, cognitive abilities, executive function, short and long term memory, improved scores and fewer errors on letter cancellation task nonverbal intelligence test, improved eye-hand co- ordination and better quality of sleep.[4,18,19] Mindfulness meditation based programs lead to changes in the attitude of the practitioners towards their thoughts, sensations and emotions leading to improvement in wide variety of clinical conditions, such as anxiety, depression, substance abuse and chronic pain.[1,20-23] Our study aims to scientifically demonstrate effectiveness of meditation (Preksha Meditation) in improving mental health of elderly.

Well-being and quality of life

Some of the proven health benefits of meditation are decreased levels of stress and tension, decline in hospitalization as well as need for out-patient medical care, decreased rates of disease, decreased overall health care costs, reduced use of alcohol and other drugs, enhanced energy, strength and overall feelings of well-being, improved vegetative functioning, improved quality

of sleep, decreased pain levels, looking and feeling younger and increased longevity.[24,25] There is improvement in cognitive functioning (intelligence, better creativity, enhanced learning ability, improved memory, improved reaction time, higher levels of moral reasoning, improved academic achievement, greater orderliness of brain functioning and improvements in self-actualization) and in social behaviour (improved self-confidence, improved family life, improved relationships at home and at work, better social tolerance, improved job performance and increased job satisfaction.

Thus meditation can be recommended as a tool to help life enjoyment and to improve general wellbeing. In present study, WHO quality of life scale (WHOQOL-BREF) was used to assess changes in various domain following 4 months of meditation. There was an improvement in all domains of quality of life scale ranging from 3 point to 5.7 i.e. psychological health (29.3%), physical health (24.1%), social health (12.1%)) and environmental health (29.3%) and in stress level (17.2%) (Table 7-11). There are few studies done systemically to evaluate quality of life and our findings are in agreement with those reported by Manocha et al (2012). [24]

Depression

It is a common problem in older adults and its symptoms affect every aspect of life, including energy, appetite, sleep, and interest in work, hobbies, and relationships.[26] While depression and sadness might seem to go hand and hand, many depressed seniors claim not to feel *sad* at all. They may complain, instead, of low motivation, a lack of energy, or physical problems. In present study, overt depression on assessment with HAMD depression scale was observed in 12 subjects of whom 10 had mild one. Following 4 months of meditation, an improvement was evident in 7 of them. Our findings are in agreement with earlier studies which has demonstrated improvement in depressive symptoms and functional fitness following 12 weeks of Buddhist Meditation Thus meditation can be recommended for mild to moderate grade depression in elderly.[27]

Anxiety

Generalized anxiety disorder (GAD) is the most common mental disorder among the elderly. Late-life anxiety can often be "silent"— missed or difficult to diagnose as older adults tend to somatize psychiatric problems; have multiple psychiatric, medical, and medication issues; and present anxiety differently than do younger patients. Various non-pharmacologic approaches have been tried and meditation has been gaining popularity as a tool mitigating anxiety and stress.[11,28-32] In present study, overt anxiety was observed in 8 of 58 subjects. Following 4 months of meditation, there was relief in anxiety in 6 of them. Our findings are in agreement with earlier studies which have observed improvement in mood, quality of life and anxiety scores. [32-35] While anxiety state remained unchanged in one subject, it got aggravated in another subject in our study. Aggravation in anxiety has been occasionally observed with meditation in earlier studies also.[36] Thus meditation should be done under observation and guidance of a trained teacher.

CONCLUSION

Aging is associated with multiple physical, mental social and economic problems. Meditation and yoga offer significant advantages in terms of enhancing positive mental health in the elderly population. It is cost-effective, non-invasive, has minimal risk of adverse effects or drug interactions and does not require medical supervision for practice. In this study we have demonstrated small to moderate improvement following 4 months practice of Preksha meditation (PM) in all domains of quality of life scale as assessed on WHOQOL-BREF ranging from 3 point to 5.7 i.e. psychological health (29.3%), physical health (24.1%), social health (12.1%) and environmental health (29.3%) and in stress level (17.2%). There was small improvements in anxiety and depression and thus can be recommended as an adjuvant measure. Traditionally, yoga and meditation is taught as daily sessions for 2–4 weeks.[37] However, people find it difficult to follow this long ordeal. There is also a need to develop a shorter duration module developed which addresses specific personality and problems of the individual.

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