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Effect of yoga intervention on quality of life of male senior citizens

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Abstract
Background: Quality of life (QOL) is the quality of an individual's daily life, that is, an assessment of their well-being or lack thereof. This includes all emotional, social, and physical aspects of the individual's life.
Aims: The main purpose of this study is to find the effect of yoga intervention on Quality of life of Male Senior Citizens.
Setting and Design: Thirty Male Senior Citizens were taken as the subjects for the study. The age of the subjects ranged from 60-70 years. The design used for the study was pre-post design. Random sampling technique was used for the subject's selection.
Methods: The current study was performed on the Quality of Life of Male Senior Citizens; pre and post data for the study were assessed on the scoring and norms according to the WHOQOL-Bref questionnaire. Yoga intervention including OM Chanting, Surya Namaskar, Yoga Asana and Relaxation were used as intervention for a period of 45 days.
Statistical Analysis Used: Dependent *t*-test was used for comparing the means of pre and post data between both the groups.
Results: Though there was no significant level of change in Quality of Life of Male Senior Citizens, after 45 days of Yoga intervention, yet there was a little improvement observed after the end of Yoga intervention.
Conclusions: The results conclude that the Yoga intervention for a longer period may have highly significant level of change in the Quality of Life of Male Senior Citizens.

Keywords: Quality of life, yoga intervention

1. Introduction
1.1 Back ground of the Study
Today yoga is being applied in various fields of human interest i.e. health, cure and prevention of injuries, sports performance, body relaxation and above all the development of physical fitness, which is the key pre-requisite factor needed for sports performance in different sports activities. As far as physical body of man is concerned many studies show that practices of yoga make the body strong, flexible and had improved performance. Yoga also improves general fitness along with psychological demands concerned with human being. Yoga has been proved to give mental equilibrium to an individual or sports person. (Anjana, 2008) [1].
Modern physical educators are interested in human performance in a variety of sports and games. Researchers have taken sincere effort to find out the relationship of different physiological factors and performance in sports and games. The study of physical fitness has an important and valuable place in modern society due to its close relation to every area of life. Yoga is a method by which one can remove ignorance and attain union with the supreme self (Iyengar, 1983).
Yoga is much more than exercise though and with time the deeper aspect of yoga is eventually touch western culture and change it forever as yoga itself will change it forever because of western culture influence. The yoga is the ultimate technique which produces a marvelous change in the life style. The sentiment of dissatisfaction egotism, anger, greediness, attachment etc. are the root cause of crime, when a person being aware and conscious by yoga practice recognizes its basic nature and suffering gained by the ill statement then a change appears in his mind and he live a decent social life, Which is full of softness, piousness, friendliness and happiness.

From ancient time and all lands, asceticism has been the greatest ideal of spiritual life. In Indian religions, yoga (from Sanskrit word meaning "yoking" or "joining") is "the means or techniques for transforming consciousness and attaining liberation (moksha) from karma and rebirth (samsara)". It is "a practice by means of which a spiritual seeker strives 1) to control nature to make the soul fit for union with the Over soul [the true Self; Atman-Brahman; "God", and 2) to attain union with God and thus the liberation of the soul from the rounds of rebirth and death".

Yoga is the art of living. It is all things to all people. It is about getting to know your-self. Integrating the many aspects of ourselves and putting us in control of our minds; the effects are holistic, bringing about health awareness and a change of attitude towards ourselves and the world around us. The beauty of Yoga is that it is accessible to everyone, as the session can be adapted to each person's level of fitness or state of health.

Yoga, being a science of spirituality through meditation, can make him free from worldly sorrows, submerge him in the God, and get him eternal bliss. Also, regular practice of yoga can take him towards the higher echelons of health and fitness. Every individual can perform yogic exercises as they don't need any special infrastructure and equipments. They can be practiced wherever you get a space to sit freely and can be done indoors as-well-as outdoors. According to (Sw. Satyananda Saraswati, 1963) [11] "Yoga is not an ancient myth but most valuable inheritance of the present. It is essential need of today and culture of tomorrow"

Quality of life (QOL) can be defined in many ways, making its measurement and incorporation into scientific study difficult. As illness and its treatment affect the psychological, social and economic wellbeing, as well as the biological integrity, of individuals, any definition should be all encompassing while allowing individual components to be delineated. Quality of life is a construct used by many different disciplines. This is one of the features that make attendance at quality of life conferences so interesting and challenging. Each discipline has its own received wisdom as to how to describe the information that defines their area of interest. So when a construct like 'Quality of life' is incorporated into these different disciplinary contexts, it emerges in forms that are biased towards each discipline.

The quality of life concept is, today, influencing decisively the programs development, the offer of services and supports, the strategies for intervention and innumerous investigations at evaluation systems level. This concept has been receiving, in the last decades, a special attention at health' and other services level, due to variety of these, of the resulting quality of life and the imperious emergence to empower the level of life of persons with Intellectual and Developmental Disability (DD.) QOL concept attends to human needs of people with developmental disabilities. Although it is important that service systems and schools contribute to learning process, is more important its action in the improvement of quality of life of the people they serve.

The quality of life as related to Yoga, seem to be important reasons. People start Yoga practice in the first instance. In day to day life, the desire to live a longer life is the reason behind many of our activities as we pay attention to health and good life in many forms, all having more or less a hidden agenda that of living longer. However, longevity and quality of life are much related to one another as two aspects of the same desire, the quality of life (as intensity of life experience) being a qualitative progression of longevity. The main issue is the quality of life experience that attracts also the longevity as a component of quality of life. Yoga sees longevity as a component, or more exactly a result of Yoga practices.

The concept of pushing morbidity towards the years of older age is becoming increasingly popular and producing good results with promotion of healthy lifestyles and preventive Interventions. In literature mentioned that many program such as exercise groups, yoga, Tai Chi that contribute to decrements of aging and the burden of illness are potentially responsive to preventive interventions for the geriatric population to ensure better quality of life (QOL). The positive effects of yoga on pain and sleep disturbances indicated that besides conventional treatment in musculoskeletal disorders, yoga can be used safely to improve the quality of life. Yoga might be also considered to be a facilitator for physical activity, emotional well-being when applied by professionals and tailored to the needs of individuals. We believe that such studies will contribute much to QOL especially in elderly.

1.2 Hypothesis

There may be a significance change in the level of Quality of Life of Male Senior Citizens.

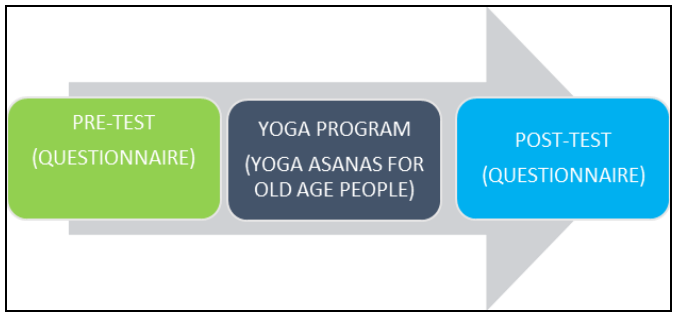
2. Methods

2.1 Subjects and Sampling

Thirty (30) Male Senior Citizens were selected (15 Experimental and 15 Control Group) for Control group from Manghnani Holiday home cum Old age home, behind valvan village resort, Valvan, Lonavala and for Experimental group from Gangotri Nivas, Hagawane Nagar Road, Pune (Maharashtra state). The age group of the subjects ranged from 60-70 years. Random sampling technique was used for the collection of the subjects.

2.2 Research Design

Experimental Group and Control Group were used for conducting the present study.



2.3 Tools Used

Whoqol-Bref (June 1997) U.S. Version, University Of Washington Seattle, Washington United States Of America (updated by Marvin Oliver on -1/10/2014), it is a 26 (Twenty-Six) set of questions to measure the Quality of Life (QOL) of Senior Citizens. WHOQOL-BREF was developed by WHO on-10/12/2015 at 4:14PM but, it was further developed by Marvin Oliver on- 1/10/2014. WHOQOL-BREF was meant for both Male and Female of old age group (60 years and above people) for the measurement of their quality of life in respect of 4 (four) areas or aspects of quality of life namely: Physical Health, Psychological, Social relationships, Environment. Coefficient of reliability is > ±0.70 and validity is < ±0.60.

2.4 Procedure

Pre-training test was conducted on both groups before starting the training program. And the test was conducted through the questionnaire on both groups. The training program was of 45 days with six days a week except Sunday. The subjects were divided into two groups i.e. Control Group (N=15) and Experimental Group (N=15). After 45 days of training the post training test was conducted. And the test was conducted through questionnaire on both groups.

Training Schedule (Six Week)

Training Program	Name of Technique	Duration of Technique	Total Duration
1st Phase (First Weeks)	1. Tar asana. 2.Utkatasana 3.Trikonasana 4. Shavasana.	15 Minutes. (10 Minutes Interval). 15 Minutes.	40 Minutes.
2nd Phase (Second Weeks)	1. Free Hand Exercise. 2. Padmasana or Sukhasana. 3. Vajrasana. 4. Ardha-Matsyendrasana. 5. Makarasana.	15 Minutes. (10 Minutes Interval). 15 Minutes.	40 Minutes.
3rd Phase (Third Weeks)	1. Warming up. 2. Ardha-Pavana Muktasana. 3. Supta Baddha Konasana. 4. Shavasana.	15 Minutes. (10 Minutes Interval). 15 Minutes.	40 Minutes.
4th Phase (Fourth Week)	1. Exercises 2. Urdhva Mukha Svanasana 3. Bhujangasana. 4. Salavasana. 5. Makarasana.	15 Minutes. (10 Minutes Interval). 15 Minutes.	40 Minutes.
5th Phase (Fifth Weeks)	1. Starting Prayer. 2. Lecture about Yoga. 3. Meditation.	15 Minutes. (10 Minutes Interval). 15 Minutes.	40 Minutes.
6th Weeks (Sixth Weeks)	1. Starting Prayer. 2. Suryanamaskar. 3. Trikonasana. 4. Ardha-Matsyendrasana. 5. Bhujangasana. 6. Meditation. 7. Shavasana.	15 Minutes. (10 Minutes Interval). 15 Minutes.	40 Minutes.

Total duration of the yoga intervention is of 40 minutes in the morning.

3. Results

The data collected on 30 subjects before and after 45 days of Yoga intervention on Quality of Life (QOL) of Male Senior Citizens, was analyzed by comparing the means of Pre and Post Tests of Experimental group and Control group and was again statistically analyzed by applying the Dependent-'t' test to check the significant difference among selected variable and also to check the level of significance. Therefore, separate tables and graphs have been drawn for each item as follows:

3.1 Section 1

This section deal with the description statistical analysis and Dependent-'t' test applied on data collected from selected subjects during Pre-Test of Quality of Life (QOL) of Male Senior Citizens, between experimental and control groups.

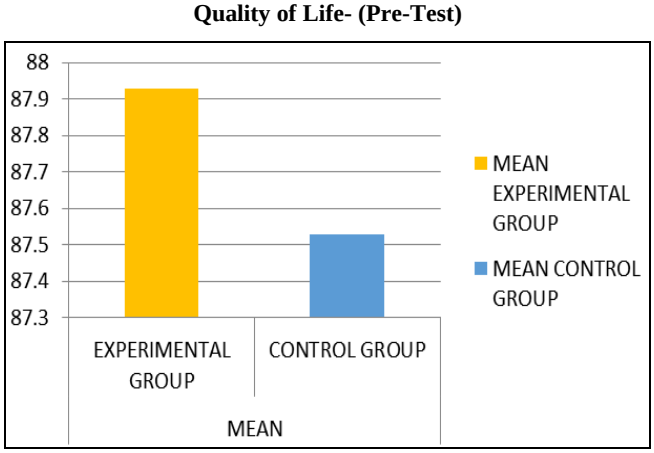
Table 1: Quality of Life (QOL) of Male Senior Citizens, during Pre-Test of Control Group and Pre-Test on Experimental Group, age 60-70 years Descriptive Statistics

Group	N	Mean	SD	S.E	DF	MD	Cal. t.
Experimental	15	±87.93	±13.63	±3.52	28	±0.4	±0.46
Control	15	±87.53	±9.55	±2.46			

Mean, S.D, S.E, M.D, T' Ratio of Quality of Life of Male Senior Citizens Tabulated-'t' value required to be significant at 0.05 level of confidence with 28 degree of freedom was 1.701.

Table No.1 revels that there is no significant difference in Quality of Life of Male Senior Citizens between Pre-tests of experimental group and control group. To check significant difference between Pre-test of experimental group and control group the data was again analyzed by applying dependent-'t' test. Therefore, after applying dependent-'t' test it was found that there was no significant difference between Pre-test of Experimental Group and Control Group of Male Senior Citizens, because value of calculated-'t' is ±0.46 which is less than value of tabulated-'t' is 1.701 at 0.05 level of confidence.

Graphical Representation of Quality of Life (QOL) of Male Senior Citizens during Pre-Test of Experimental Group and Pre-Test of Control Group, Age 60-70 Years



Graph 1: Mean of Experimental Group: ±87.93 and Mean of Control Group: ±87.53

3.2 Section 2

This section of the chapter deal with the descriptive statistical analysis and Dependent-'t' test applied on data collected from selected subjects during Post-Test of Quality of Life (QOL) of Male Senior Citizens, between experimental and control groups.

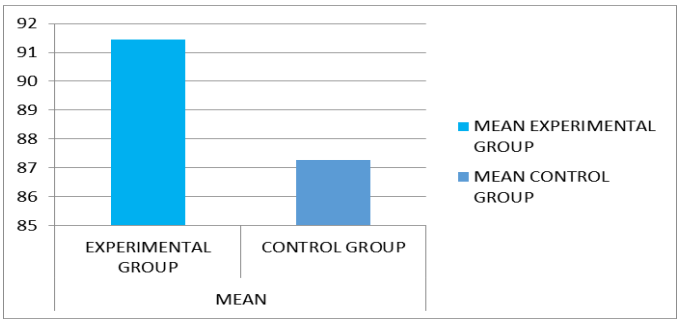
Table 2: Quality of Life (QOL) of Male Senior Citizens during Post-Test of Control Group and Post-Test on Experimental Group, age 60-70 years Descriptive Statistics

Group	N	Mean	SD	S.E	DF	MD	Cal. t.
Experimental	15	±91.46	±7.84	±2.02	28	±4.2	±1.283
Control	15	±87.26	±10.22	±2.64			

Mean, S.D, S.E, M.D, T' Ratio of Quality of Life of Male Senior Citizens Tabulated-'t' value required to be significant at 0.05 level of confidence with 28 degree of freedom was 1.701.

Table No.2 revels that there is a little improvement observed but not significantly between Post-test score of Male Senior Citizens of experimental group and control group. To check significant difference between Post-test of Male Senior Citizens of experimental group and control group, the data was again analyzed by applying dependent-'t' test. Therefore, after applying dependent-'t' test it was found that there is little improvement observed but not significantly between Post-test of experimental group and control group because value of calculated-'t' is ±1.283 which is less than tabulated-'t' is 1.701at 0.05 level of confidence, which shows that there is little improvement, but not significantly on Experimental Group after 45 days of Yoga Intervention.

Graphical Representation of Quality of Life (QOL) of Male Senior Citizens during Post-Test of Control Group and Post-Test of Experimental Group, Age 60-70 Years



Graph 2: Mean of Experimental Group: ±91.46 and Mean of Control Group: ±87.26

4. Discussion and Conclusion

The results of the study indicate that through there was no statistically significant difference in the level of Quality of Life of Male Senior Citizens after 45 days of Yoga Intervention at 0.05 level of confidence, yet the little improvement occurs but not at a significant level to draw a assertive conclusion, because the improvement was little and this happens due to the short term duration of period. The results conclude that if the Yoga Intervention continuous for long term duration of period (such as- 2 months, 3-months, 6 months, etc.) then there may be a significant change in the level of Quality of Life of Male Senior Citizens.

According to Bankar *et al.* (2013) [2] examined to study the effect of long-term Yoga exercises on sleep quality and quality of life (QOL) in the elderly. This was a cross-sectional study in which data were collected from elderly people aged 60 years or more living in Nagpur city. We employed two types of survey questionnaires: Pittsburgh sleep quality index (PSQI) and QOL Leiden-Padua (LEIPAD) Questionnaire. A total of 65 elderly men and women who signed an informed consent and completed questionnaires were included in the study. Sleep quality score PSQI and QOL (LEIPAD Questionnaire) score of the study group were evaluated and compared with the control group using Mann-Whitney U test. Total PSQI score in Yoga group was lower than that of the control group. Also various QOL scores of the Yoga groups were higher than the control group. Addition of regular Yoga exercises in the daily routine of elderly people can help to achieve good sleep quality as well as improve the QOL.

According to Goncalves *et al.* (2011) [8] study was conducted to assess the levels of flexibility, functional autonomy and QOL in elderly yoga practitioners. The subjects were divided into a yoga group (YG; $n = 52$; age = 66.79 ± 3.30 years; BMI = 24.77 ± 3.18) and control group (CG; $n = 31$; age = 69.33 ± 4.84 years; BMI = 24.32 ± 3.71) and submitted to flexibility tests through goniometry, the LADEG autonomy protocol and QOL, using the WHOQOL-Old questionnaire. The remaining variables showed no significant intergroup modifications. Thus, the study suggests that the regular practice of yoga may lead to improved range of motion in the performance of activities of daily living in elderly women.

According to Yin Lin *et al.* (2011) [9] conducted to assess to determine the effects of yoga on psychological health, quality of life, and physical health of patients with cancer. Studies were identified through a systematic search of seven electronic databases and were selected if they used a randomized controlled trial design to examine the effects of yoga in patients with cancer. The quality of each article was rated by two of the authors using the PED or Scale. Ten articles were selected; their PED or scores ranged from 4 to 7. The yoga groups compared to waitlist control groups or supportive therapy groups showed significantly greater improvements in psychological health: anxiety ($P = .009$), depression ($P = .002$), distress ($P = .003$), and stress ($P = .006$). However, due to the mixed and low to fair quality and small number of studies conducted, the findings are preliminary and limited and should be confirmed through higher-quality, randomized, and controlled trials. Significant improvement on balance score, walking endurance, FFS and some of MSQOL-54 scale scores in the yoga group ($p \leq 0.05$ respectively). There were no clear changes in10-m times ($p = 0.132$), related to yoga group. No changes were observed for control group. These results suggest that yoga intervention can be beneficial for patients with MS.

Thus, the current research concludes that the continuous practice or long term duration of Yoga Intervention may have significant change in the level of Quality of Life of Male Senior Citizens.

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