Effect of laughter yoga on morale of old age home residents

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Abstract

Introduction: The elderly population is increasing in the world and some of them are forced to stay in old age homes. Low morale, which is a sign of depression, can result from overlooking their medical and social problems as a part of normal ageing. **Objectives:** The objectives of the study were to find out the effect of "laughter yoga" on the morale of the elderly living in old age homes of Kottayam district and to identify the relationship between selected baseline variables and morale. **Methods:** Study participants were 153 elderlies, above 60 years of age, from randomly selected old age homes. Basic pre-test and post-test experimental designs with biweekly measurements were carried out using Philadelphia Geriatric Centre Morale Scale. Six days of 30 minutes laughter yoga sessions were administered for eight weeks in the experimental group. **Results:** Pre-test morale scores were low in both the groups. The experimental group showed gradual improvement on morale (χ^2=30.218, df=4, p= .000). There was significant association between physical dependence (χ^2 =16.992, df=4, p= .002), forced placement in old age home (χ^2=24.592, df=1, p= .000), duration of stay in the old age home (χ^2=16.221, df=8, p= .39) and morale. **Conclusion:** Dependency for activities of daily living was found to be associated with low morale. Voluntary admission to old age home and the duration of stay for two to three years were found to be high in morale. Laughter yoga was found to be effective in improving morale among elderly old age home residents.

Key words: Laughter yoga, elderly old age home inmates, morale

Introduction

Kerala is one of the first states in India to reach an advanced stage in demographic transition. According to Bhat and Rajan (1990), there is a rapid increase in the number of the elderly within the state due to continuously declining number of births and the youths' migration in large numbers in search of job opportunities. Forty percent of Kerala's total population will be elderly by year 2061 (Krishnakumar, 2012). Often the medical and social problems of elderly are over looked and neglected by seeing them as a part of normal ageing. Low morale is the result of this neglect, which leads to depression; a common and serious condition in the aged. While working with extremely vulnerable population like the elderly, nurse-patient interaction is critical to the patient's experience of dignity, self-respect, sense of self-worth and well-being. These factors can significantly reduce depressive symptoms and improve the morale among the elderly (Haugan, Instrand and Moksnes, 2013). Poly pharmacy and increasing health care costs also adds to the problems of the poor elderly. Inexpensive alternative forms of therapy, which is not causing adverse reactions, must be looked for. Laughter yoga is one kind of therapy with psychological as well as physiological benefits, which is developed by Dr M Kataria, an Indian physician in the year 1995. For the past two decades, the laughter club concept of laughter exercise has been introduced to many populations, but it has found its greatest favour so far with the elderly (Kataria, 2011).

Kerala with its unique features of ageing is the state with maximum old age dependency ratio (which is 19.6% of the population) (Census, 2011). The districts, which are having highest problems, are the districts of Pathanamthitta followed by Alapuzha and Kottayam (Rajan, 2000). Of the three, Kottayam is having the highest number of old age homes. Therefore, it would

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be apt to study the elderly inmates of old age homes of Kottayam district.

In India, the revised National Policy for Senior Citizens (NPSC, 2011) recognizes that outcome changes such as improvement in quality of life, socioeconomic conditions and health of senior citizens can be brought about only through the collaborative efforts of the government, civil society, and the private sector. Nurses and other professionals working with elderly clients can make use of laughter yoga, which is an inexpensive and non-invasive therapeutic technique, if sufficient research evidence can be generated to support it. Laughter therapy will further have a positive effect even on the care givers.

The study objectives were to find out the effect of "Laughter Yoga" on morale of the elderly clients living in old age homes of Kottayam district and to identify the relationship between selected baseline variables and morale.

Materials and Methods

The experimental approach with basic pre-test and post-test design and time series measurements were used (Polit, 2012). We measured the effect of continuous practice of laughter yoga on morale of the elderly clients living in old age homes of Kottayam district with a time interval of two weeks for a period of two months. Four old age homes were randomly selected from 32 registered old age homes, which are scattered in the five taluks in Kottayam District using cluster sampling technique. In the first stage, two taluks were randomly selected from the five taluks (Kottayam and Meenachil). Two old age homes from Kottayam were selected as the experimental group and two homes from Meenachil were selected as control group in the second phase randomly. All inmates, who were eligible to participate in the study as per the inclusion criteria from all four clusters, were selected as sample for the study. These homes are run by Christian managements mainly to cater the needs of the poor elderly who are having no one to care. They are providing care in the areas of health, spirituality, general areas, and having provision for recreational facilities.

Clients who were willing to participate in the study and who were recommended by the old age home physician or nurse regarding their ability to comprehend and having fitness to participate in laughter yoga were

included. Clients who were seriously ill or suffering from a debilitating illness and with severe hearing impairment and difficulty to communicate were excluded from the study. Based on the sampling criteria we got 153 samples for the present study. The experimental group consisted of 34 male subjects and 57 female subjects making a total of 91 subjects to begin with. At the end of eighth week, the experimental group had 77 members due to attrition at different weeks, because of sickness (10 members), hospitalization (three) and death (one). The control group consisted of 30 male subjects and 32 female subjects making a total of 62 subjects to begin with. At the end of eighth week there were only 61 participants and there was one attrition due to sickness. From the clusters, all eligible inmates were invited to participate in the study. But total number of inmates varied in different homes and there was an unwillingness to participate in the study especially from male subjects. Participation was purely on voluntary basis, which lead to unequal number of participants in control and experimental groups. Control group had assessment at the same time interval as that of the experimental group. But they were not receiving the intervention. They were wait-listed.

Baseline data sheet and the Philadelphia Geriatric Centre Morale Scale (PGCMS) (Lawton, 1975) were the tools used. The base line variables of age, gender, marital status, number of children, religion, education, occupation, income, visitors, method of placement in old age home, and duration of stay in old age home were collected.

The PGCMS (Lawton's PGC Morale Scale)– is the 17 item revised version of the PGC morale scale (Lawton, 1975) is the generally used scale, which provides a multidimensional approach to assess the psychological state of older people. It has been developed by M. Powel Lawton and his staff at the Madelyn and Leonard Abrahamson centre for Jewish life (formally the Philadelphia geriatric centre). For scoring, each high morale response gets a numerical score of one and others get no score. Totaling the number of high responses gives the individual score for a particular administration of the scale pattern. Score of zero to nine was taken as low morale score, 10 to 12 was treated as mid morale score and 13 to 17 was treated as high morale score. Pinar and Oz (2011) have reported the validity and reliability of this tool among Turkish

elderly people. They calculated reliability by internal consistency using Kuder Richardson 20 (KD-20) and item total correlation. KD-20 was 0.92 for total PGCMS. Confirmatory Factor Analysis (CFA) was used to test the structure of the PGCMS. However, the structure of Morale scale by factor analysis was not taken for the present study. The tool was translated to the vernacular language Malayalam by five language experts in Malayalam and it was then retranslated to English by English language experts. The reliability of the translated tool was estimated by calculating Cronbach alpha coefficient which was 0.85 showing that the tool is reliable for the elderly population.

Data collection technique

PGCMS was filled up by those elderly, who were comfortable in filling the questionnaire by them. Interview technique was used for others.

Ethical considerations

The study was approved by the institution. Prior permission was taken from the old age home authorities to carry out the research study. Written informed consent was obtained from each participant. Confidentiality of the data collected was also assured and privacy was provided during the interviews.

The pilot study helped us to evaluate the feasibility of the protocol and to effect necessary modifications in the main study. During the pilot study, the authors had tried to keep a fixed set of laughter technique for the sake of uniformity. But from the group of male participants there was a request for change in technique to laugh since they felt bored with the same technique every day. It was decided to use a variety of techniques (developed by Kataria) to engage the clients playfully and without boredom, which was well-accepted by the participants.

The laughter yoga intervention

One session of laughter yoga was for 30 minutes. Following steps were used. Clapping in a rhythm "1-2 . . . 1-2-3" along with chanting of "Ho-Ho-, Ha-Ha-Ha-," greeting laughter, gibberish talking**,** deep breathing with inhalation through the nose and prolonged exhalation (three to five times), milk shake laughter, lion laughter, appreciation laughter, argument laughter, forgiveness/apology laughter and blowing birth day candles. The intervention was performed in the morning and afternoon hours (after breakfast and prior to lunch

hours, before and after the evening tea according to the availability of subjects without affecting the daily routines of the home). The authors had undergone laughter yoga training under Dr Kataria and got certified as an Internationally Certified Laughter yoga teacher. The participants were taught the intervention by the researcher. The authors gave training to three assistants and interested staff members from the old age homes in laughter yoga. They were instrumental in gathering the participants and initiating the therapy every day. The authors had also participated in the sessions at different homes on a planned schedule. Each of the exercises was repeated for one to two minutes with rhythmic clapping and "Ho–Ho- HA- HA – HA" chanting. Deep breathing techniques (smelling the rose, candle blowing) were placed in between with shoulder exercises for shoulder mobility. Laughter meditation was the next step. Finally, the session was concluded with a slogan that "we are the happiest people in the world. (Kataria, 2002). None of the experimental and control group subjects had prior knowledge or exposure to Laughter Yoga. After the eighth week of measurement the control group subjects were also taught laughter yoga techniques for relaxation and well-being.

Results

The statistical analysis of the data was done using statistical package for social sciences (SPSS) version 20. Skewness and kurtosis of the distribution were calculated (Skewness-0.482, standard error 0.196. Kurtosis-0.954, standard error-0.390). Based on the findings Kolmogorov-Smirnove and Shapiro-Wilk tests of normality were done. Since the data were found to be not normally distributed, it was planned to use nonparametric tests for hypothesis testing (Indrayan, 2008). Changes in variable between pre-testing and the post tests were done with frequency and percentage and Mann-Whitney test to compare the control group and experimental group. Within group comparisons from pre-tests to post tests for the control and experimental group were done with Friedman test. The association between morale and the socio demographic variables were studied using Chi-square test.

Majority of the study participants (43.1%) were between the age group of 60 and 70 years, 28.1% were 70 and 80 years and 28.8% were above the age of 80 (excluding the upper age limits), 58.2% of

participants were females; among them 0.7% of participants were Muslims, 41.2% were Hindus, and 58.2% were Christians. 61.4% of subjects were having primary level of education and 19.6% were illiterates. 33.3% of subjects were single, 41.17% were widowed, 10.5% were separated, 9.2% were married, 5.95% were divorced, 51% of the participants (including single individuals) were without children, 26.14% of subjects were housewives, 31.40% were coolies and 8.55% had no jobs. Subjects having some jobs were found to be without pension and retirement benefits. 81.05% of subjects were totally dependent on old age home for their survival since they had no other source of income.
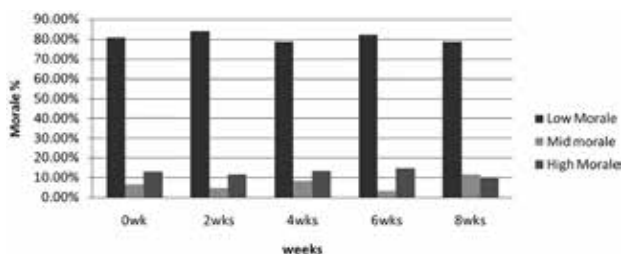
Morale scores

Figure 1: Percentage distributions of scores on Philadelphia Geriatric Center Morale Scale of control group

As shown in Figure 1, 80.60% of control group showed low morale at pre-test. Post-test low morale scores were 83.90%, 78.70%, 82.00% and 78.70% respectively for the second, fourth, sixth and eighth weeks, respectively. This shows that majority of the control group subjects had low morale from pre-test to post-tests. High morale scores at pre-test were seen in 12.90%, after two weeks, it became11.30%. Remaining post test scores were 13.10% (fourth week), 14.80% (sixth week), 9.80% (eighth week). The mid morale score at pre-test was 6.50%. It showed fluctuations during post-tests – 4.80%, 8.20%, 3.20%, and 11.50%, respectively from second to eighth weeks. It shows that only about 20% of the elderly are having mid to high morale score in the control group.
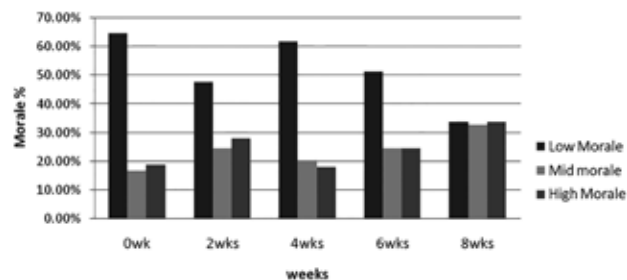

Figure 2: Percentage distributions of scores on Philadelphia Geriatric Center Morale Scale of experimental group

As shown in Figure 2, 64.80% of experimental group showed low morale, 16.50% showed mid morale, 18.70% showed high morale at pre-test. During post-test, low morale scores were 47.70%, 61.90%, 51.20%, and 33.80% respectively from second week to eighth week. The mid morale scores improved at first post-test to 24.40%, but decreased to 20.20% at second post-test and showed steady improvement in sixth week (24%) to eighth week (32.50%) post-tests. The high morale scores for the post-test was 27.90% (second week), 17.90% (forth week), 24% (sixth week) and 33.80% (eighth week). The values showed improvement in morale after the laughter yoga intervention. At the same time, it shows that in spite of the intervention, the morale became low without sustaining the improvement as seen in first post-test. But continued practice of Laughter Yoga was giving steady improvement in morale. The results show that it is not easy to bring changes in morale and there are fluctuations in the morale of the elderly.

Table 1 shows the mean rank of morale of the experimental group from pre-test to post- tests for second, fourth, sixth, and eighth weeks (N=77). (χ^2= 30.2l8, df = 4, p= .0001) and the mean rank of morale of the control group from pre-test to four post-tests. (N=61) (χ^2 = 3.520, df=4, p= .475). Table 1 also explains that there was no change in morale among the control group.

Table 1:

Within Group Comparison of Experimental Group and Control Group on Morale (Using Friedman Test) between Five Time Point

Morale Score Mean Rank									
Group	**Pre-test**	**Post-test**							
		2 wks	4wks	6wks	8wks	N	χ^2	df	*p* Value
Experimental	2.62	3.14	2.68	3.03	3.53	77	30.218	4	.0001
Control	3.03	2.91	3.07	2.99	2.99	61	3.52	4	.475

Table 2:
Between Group Comparison of Control and Experimental Groups on Morale Using Mann- Whitney Test

	Morale Scores				
	Pre-test	Post-tests			
		2 wks	4wks	6wks	8wks
Mann-Whitney U	2401	1738.5	2162.5	1802	1277.5
Z	-1.963	-4.195	-1.963	-3.358	-5.068
p - Value	.050	.0001	.050	.001	.0001

Table 2 shows that the control and experimental group had significant difference in their morale from pre-test to post-test on eighth week. A fluctuation is seen in both groups in the fourth week measurement. Significant difference is seen between the groups in the sixth and eighth weeks. It shows that continuous practice of laughter yoga can cause improvement in the morale of the elderly.

There was no significant association between any of the variables and the morale age and morale (likelihood ratio=5.877, *df*=4, *p*= .209), gender and morale *(χ²=4.562, df =2, p= .102)*, Religion and morale (likelihood ratio=5.239, *df*=4, *p*= .264), level of education and morale (likelihood ratio = 10.608, *df* =10, *p*=.389), marital status and morale *(χ²= 10.776, df=8, p*=.215), number of children and morale (likelihood ratio=15.497, *df* =16, *p*=.410), chronic illness and morale (likelihood ratio= 0.728, *df* =2, *p*=.685) and number of visitors to morale, (likelihood ratio= 4.846, *df* =4, *p*=.237).

Table 3:
Association between Selected Baseline Variables and Morale Scores

N=153

Baseline Variables	χ^2	df	p value
Duration of stay in the old age Home	16.221	8	.039
Physical dependence	16.992	4	.002
Nature of admission to the old age home	17.699	4	.001

Table 3 shows significant association between the baseline variables of duration of stay, physical dependence and nature of admission to old age home and the morale scores. Duration of stay from two to three years of stay had high morale. Less than two years and more than three years of duration were associated with low morale. Those elderly, who were physically dependent on others for activities of daily living, had significantly low morale. Elderly, who were forcefully placed by their own children had low morale and people, who took voluntary admissions had mid and high level of morale.

Discussion

Elderly residents in old age homes are low in their morale. Only 12.9% of the control group subjects and 18.70% of the experimental group had high morale. Whereas 6.5% of the control and 16.55% of the experimental group had mid morale scores and majority of the control group subjects had low morale from pre-test through the post-tests. There were 64.8% of experimental group subjects with low score on morale at the pre-test level and it became 28.6% at the end of eight weeks of laughter yoga. The experimental and control group were not similar at the pre-test level on morale because 80.6% of the control group subjects reported low morale whereas, only 64.80% of the experimental group had low morale (z = -1.963, p= .050).

During the course of the study, though there were slight fluctuations in scores, the control group subjects remained low in their morale scores, as shown by the Friedman test (χ^2=3.520, *df* = 4, *p* = .475) whereas the experimental group showed a significant improvement in morale (χ^2= 30.218, *df*= 4, *p* = .0001). The two groups were different throughout the study as shown by Mann-Whitney test (χ=4.195, *p* =.0001 (second week), χ = -1.963, *p*=.050 (forth week), χ = -3.358, *p* = .001 (sixth week) χ = -5.068, *p* = .0001 (eighth week)). Around the fourth week the control and experimental group had an increase in minor ailments due to the weather change, which has affected their state of general health and thereby a reduction in their motivation to continue the laughter yoga. Comparatively the study participants were better than other inmates of the old age homes. Two participants dropped out due to viral fever. The result pattern shows change in morale as well as the score fluctuations denoting the fact that various conditions can influence the morale of the elderly and a technique like laughter yoga can have a buffering effect for the same. The authors have not come across any reported studies on laughter yoga and elderly morale.

Woo et al. (2005) have reported depression as the predominant factor contributing to morale as measured by the PGCMS among elderly Chinese aged 70 years and above living in community. PGCMS scores were strongly correlated with GDS scores too - (Spearman's

correlation coefficient being -0.77 (*P*< .001, n=752). They have identified male gender, old age (above 90 years), being married, good health condition, good social support, good hearing, vision and ability to chew, enough money for expenses, absence of weight loss, absence of disturbing symptoms, pain, insomnia and falls as factors related to good score on morale. Majority of old age home inmates of the current study were lacking in all these factors and it actually explains their low morale scores. Matsudaira, Takayama Suganuma, and Ogawa (2010) studied the factors related to the subjective well-being of elderly residents of special nursing homes using PGCMS. The mean PGCMS score was 16.06 to 3.95 points. Multiple regression analysis has shown that security, human relations being good, acceptable physical state of health and degree of freedom in everyday life were found to underlay a subjective feeling of happiness (morale) among people living in old age homes.

Loke, Abdulleh, Chai, Hamid and Yahya (2011) have examined the relationship between morale measured by PGCMS and disability, social support, religiosity and personality traits. Greater disability from chronic illness was associated with low morale. Poor/reduced social support was related to poor attitude towards ageing and lonely dissatisfaction. Increased religiosity had relatively improved one's attitude towards ageing and life satisfaction, improving the morale, but made no difference to the anxiety. Positive personality traits were associated with a modest but consistent improvement in morale. The study identified social support and disability as the modifiable risk factors to improve morale. In the present study, there was association between morale and physical dependency on others resulting from chronic illness or disability, but no association was found between chronic illness and morale. Value based laughter yoga techniques, laughter meditation, prayer for world peace and group approach itself may be helpful in improving the spiritual strength and social support of the elderly, when practiced almost six days a week in a group setting.

Present study did not show any association between age and morale. Woo, Ho and Wong, (2005) had a different observation about the elderly Chinese individuals who were living in community and not in old age homes. They found a higher PGCMS score among people of more than 90 years old. We have observed that in the oldest old acceptance of the ageing process contributes to a higher morale. Low morale goes very well with increase in depression among the elderly as age advances. There was statistically significant association between duration of stay in the old age home and morale. The following are our inferences with reference to this finding: The initial years (less than two years) the elderlies were found to have low morale. It is the most disturbed phase of living in an old age home. When their duration of stay increases (upto four years) probably they are coming to terms with the old age home environment and may be their own life. But when the duration of stay increases (more than four years) they go back to a state of poor well-being, low morale and more of hopelessness and worthlessness. They even felt that they lost their own identity and is viewed as an inmate of old age home, who is having nothing to look forward except death. Some of the inmates were found to be seeking placement in another old age home during this time period. Morale was found to be highest (4l.7%) among the inmates with a duration of two to three years (But their number was small) (likelihood ratio = 167.22l, *df* = 8 *p* < .39).

People when they are reasonably healthy were given various responsibilities in the day to day activities of the old age home. Comparatively people with duration of two to three years of stay who were active had a sense of usefulness derived by their engagement in such responsibilities. This in fact might be the reason for their improved morale. As duration progresses this ability is deteriorating, which makes them nonproductive and dependent on others due to poor physical health. This naturally pushes them to low morale, poor well-being and increased severity of depression. The present study could not find any statistically significant association between morale and the presence of chronic diseases. There was statistically significant association between physical dependency and morale as shown by the present study (likelihood ratio = 16.992, *df* = 4 *p* <.002). Compared to people those who are independent in activities of daily living and those who used assistive devices for locomotion had better condition than that of dependent clients. Dependency is perceived by the elderly negatively and it affects the morale. Often, they felt that, they are at the mercy of other people and a burden for others.

No significant association was found between number of visitors and morale. This could be due to the very small number of subjects having regular visitors. Loneliness and a feeling that they are not wanted by the immediate family members and relatives were expressed as a bitter experience by most of the elderly.

Conclusions

The elderly clients residing in old age homes have low morale. The elderly who were forced by own children for old age home placement was having very low morale. Morale of subjects who were staying in the old age home for two to three years found to be better than others with less than two years or more than three years of stay. Dependency on others for activities of daily living caused low morale among the elderly residing in old age homes. Elderly who took voluntary admission to old age home were found to be comparatively high in morale. Gender distribution gives evidence to feminization of the elderly. Laughter yoga was found to be effective in improving morale among elderly clients, who were residing in old age homes.

Acknowledgements

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