RESEARCH ARTICLE

A STUDY TO ASSESS THE EFFECTIVENESS OF LAUGHTER THERAPY ON REDUCTION OF STRESS AMONG ELDERLY IN THE SELECTED OLD AGE HOME AT PUDUCHERRY

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ABSTRACT

Background: Stress is defined as the physiological or psychological tension that threatens homeostasis or a person 's psychological equilibrium. **Objectives**: (1) To assess the pre-test level of stress among elderly in both control and experimental group. (2) To assess the effectiveness of laughter therapy reduction of stress among elderly in experimental group and compare with control group. (3) To find out the association between on pre-test level of stress among elderly with their selected socio demographic variables in experimental group. **Methodology:** A Total 40 elderly people were selected by using simple random sampling technique and true experimental (one group pretest and posttest control group design) was adopted for the study. The data collection was divided into two sections in which section (a) contains socio demographic variables and section (b) contains perceive stress scale. Pretest was conducted in both control group and experimental group using perceived stress scale. Laughter therapy intervention was given to experimental group for 20 minutes twice in a day for 6 days. And post test was conducted in both control group and experimental group using perceived stress scale. Data analysis was done using descriptive and inferential statistics. **Results:** The study findings revealed that, posttest of experimental group mean score was 14,500 with standard deviation 4.88284 was higher when compared to pretest mean score of 23.2000 with the standard deviation 5.69025 and it was statistically significant at the value of p<0.0001 and the posttest level of stress score was associated with history of alcoholism and it was significant at the level of p<0.001. The study concluded that laughing therapy was effective in reduction the stress among elderly in experimental group when compared to control group. **Conclusion**: In this study concludes that laughter therapy was effective and helped to reduce the level of stress among the elderly people.

INTRODUCTION

Aging is a natural process. Elderly is an inexorable one. It is a pivotal phase where physiological, psychological and sociocultural changes make them to develop stress. Gerontology is the study of aging has become a field of specialization. Old age is a period of multiple sickness and general disability. This unbonding situation may lead to stress among old age. Exposure to stress among elderly can also contribute to behaviors such as smoking, over-consumption of alcohol, retirement from job, family situation, less-healthy eating habits, etc. According to population census 2011 approximately more than 60 years were 104 million in which 53 million females and 51 million males. It is predictable that it will increase to 173 million by 2026.[1] Active agingis the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age (WHO 2002). An active aging framework provides the useful tool for developing aging related policies. However, promoting active aging is fraught with complexities, and challenges as well as opportunities.

It is also becoming evident that the trajectories of aging and aging related response in developing and developed countries are distinct and different. Collecting data, evidence and experience of age in developing countries is essential for proactive policy and programme development for promoting active and meaningful aging in developing countries.[2] Dr. Madan Kataria, the institution of Father of laughter yoga, from Bombay discovered that the body cannot distinguished between acted and genuine laugh. Fun and jokes improves the interpersonal relationship and make the emotional adhesion strong and it help to reduce depression, especially among older age people. The therapeutic laughter in senior people relaxes the whole body. A good laugh helps to relieve physical stress and allowing us to relax for up to 45 minutes. Laugh increases immune cells and helps to produce antibodies and improves resistance to disease. Laugh diffuses conflicts than any other therapy. Laughter may help people to live longer.[3]

Need For The Study: Globally, the rate of growth of aging population is exceeding the general population.

By 2036, three fourth of the world elderly population will be from the developing countries. World Health Organization (WHO) reported that, there are 80 million people above 60 years of age constituting 8 % of the total population in India. This is likely to reach 179 million by 2036 forming 13.3 % of the population. Many of the elderly complains about poor quality of life as being marked by the poverty, ill health and emotional insecurity.[3] The effective intervention in reducing depression and stress in elderly is a combination of both biological and psychological interventions. Laughter therapy is one of the interventions, which provides a good massage to all internal organs in reducing stress hormone level, increasing the circulation, and relaxing the muscle. And it is useful in reducing stress and depression among elderly people.[4] According to world health organization, (2009) aging has become gender issue because due to demographic changes, there will be 604 million older women in 2025. 70% of these will be in developing countries. There are 974 women/1000 men in India. 10% of older women are chronically ill, 80% are totally economically dependent, thus women are more prone to be stress than men.[5] Laughter therapy is beneficial especially for older people. Elderly is always in need of human contact while most of them are surrounded by likeminded peers, they still miss the bonding of a family. They need someone close with whom they can share their emotions. Laughter therapy have the power to reach beyond the healing of laughter. Many of the elderly complains about poor quality of life as being marked by the poverty, ill health and emotional insecurity. The effective network of caring-sharing relationships is the key to a happy and healthy life. Relationships with people become very strong and the feeling of loneliness disappears. Elderly enjoys the daily meetings as it generates a sense of belonging.[6] Laughter therapy decreases stress hormones that constrict blood vessels and suppress immune activity and reduces at least four of neuroendocrine hormones associated with stress response. Laughter therapy is found to lower blood pressure, reduce stress hormones, increase muscle flexion and boost immune system. Laughter can be effective and useful self- care tool to cope or manage with stress. Laughter provides an ease for accumulated stress. so, we have taken this study to assess the effectiveness.[7]

REVIEW OF LITERATURE

The Review of literature for the present study is based on extensive survey of books, journals, web sources, unpublished thesis and international indices. An extensive review of research and non-research literature relevant to the study was undertaken, which helped the investigators to develop deeper insight into the problem and gain information on what has been on the past in order to build the foundation of the study.

Bince Varghee, Saniya Susan Issac (2020): Conducted a descriptive study to assess the level of stress among elderly people residing at old age home in Uttar Pradesh. A quantitative research approach with non-experimental survey design was used in the study. Non probability purposive sampling techniques was employed to select 30 elders. A standardized perceived stress scale containing 10 items was used for assessing the level of stress among the participants. The majority 46.7% of elders who reside at old age home had moderate stress, 30% of them had high level of stress and 23.3% had low stress. There was an association between the level of stress among the elderly people with their pattern of communication with the family members ($x^2 = 14, 7, p= 0.001$). The finding revealed that the majority of elderly population in old age home had moderate level of stress, there is a need to organize any interventional package to improve the physical and psychological health of elderly.[8]

Nisarat Auttama (2019): Conducted a study to assess the level of stress and associated factors among the elderly living in rural area of Thailand. This was a cross sectional study conducted in two sub districts of rural Thailand and interviewed 403 elderly people. Simple random sampling technique from a list of registered elderly individuals and conducted face to face interview using questionnaire. Multiple linear regression was applied for data analysis. This result showed that mean age of the participants was 68 and two thirds (67%) were female. Less than 43% of the participants had moderate and one third 34% had high level of stress. More than half of the participants had low level of stress management. Stress was significantly associated with alcohol and illness with predictive power of 3.0% (R = 0.173) (R square = 0.030) (p<0.05). The findings revealed that risk factors such as alcohol and illness affect elderly population living in rural areas of Thailand to a major extent in terms of stress.[9]

Ji-Soo Lee, Soo - kyoung Lee (2020): Conducted a study to assess the effects of laughter therapy for the relief of employment -stress in Korean student nurses by assessing psychological stress salivary and subjective happiness. A quasi experimental, non-equivalent, control group, pretest/posttest was conducted in 4 th year student nurses n=48 from 2 universities in Korea at a time when participants final exam and job searches were simultaneously occurring. Physiological stress measured using modified Cornell medical index questionnaire and the subjective happiness scale were used to determine the effects of the program. In this study result showed that the laughter program was effective in relieving employment stress and increasing the subjective wellbeing of student nurses. Psychological stress p<0.0001, salivary cortisol level p<0.001, and subjective happiness p<0.001 were statistically significantly improved after the intervention compared with before the laughter program. In this study findings revealed that to reduce the student stress and improve subjective happiness.[10]

Manpreet Kaur, Dr. Amandeep Kaur Bajwa, Mrs Gurjeet Kaur (2019): Conducted a Pre-Experimental Study to Assess the Effectiveness of Laughter Therapy on Quality of Life among Elderly Residing at Selected Old age Homes, Punjab. The Objective of this study was to assess the effectiveness of laughter therapy on quality of life of elderly residing in old age home. 60 elderly participants were selected using the purposive sampling technique. The elderly allocated in three groups (20 in each group). 16 sessions (4 sessions / week) Data was collected by administering WHOQOL-BREFF questionnaire. The results of study revealed that the pre-test mean ±SD score of quality of life was 157.4 ±43.09 and post-test mean ±SD score was 178.53±34.26. It was found that there was statistically significant difference in the pre-test and post-test score of quality of life (t=2.740) at 0.05 level. There was a significant association between pre-test score of quality of life and presence of any illness/disease and post-test score of quality of life with sex and type of admission at 0.05 level. The study findings concluded that Laughter Therapy was effective to improve the quality of life of elderly residing at old age homes.[11]

METHODOLOGY

This chapter deals with brief description of varied steps under taken by investigator for the study. The study includes research approach and design, setting of the study, variables population sample, sampling technique, content validity, testing of the tool, reliability, ethical considerations, pilot study, methods of data collection and plan for data analysis.

Research Approach: Quantitative approach was used, to assess the effectiveness of laughter therapy among elderly on reduction of stress.

Research Design: To assess the effectiveness of laughter therapy among elderly on reduction of stress in selected old age home at Puducherry. The study design adopted for the present study was pretest and posttest control group design.

Socio Demographic Variable: It includes the information about elderly people including age, gender, religion, educational status, marital status, occupational status, income, source of income, number of children, any medical illness present, history of smoking, history of alcoholism, practice of any relaxation therapies.

Sample: The sample for this study comprised of 40 elderly above 60 years of age.

In these 20 participants were in a control group at PST old age home and 20 participants were in a experimental group in Christ living old age home elders.

Data collection instruments: Data collection tools used by the investigator to measure the level of stress among elderly was perceived stress scale.

Data Collection Process: The data collection was done in selected old age homes of Pondicherry from 10.10.2022 to 15.10.2022. Formal permission was obtained from ethical committee, Sabari college of nursing. Purposive sampling technique was adopted to select 40 elderly participants. Nature and objective of the study was explained and got informed written consent from the participants. On day one pretest was conducted using Perceived stress scale to assess the stress among the elderly. And from day one (10.10.2022) to day six (15.10.2022) intervention (laughter therapy) was given twice a day for 20 minutes. On day six (15.10.2022) post test was conducted using Perceived stress scale among the elderly to assess the stress after giving the intervention.

Plan For Data Analysis

- The data obtained in the study will be analyzed by using both descriptive and inferential statistics.
- Frequency, percentage distribution will be used to assess the demographic variables. Mean and standard deviation will be used to assess effectiveness of laughter therapy.
- Chi-square test will be used to find the association between the posttest level of stress among elderly with the selected demographic variables.

Figure 2. Schematic Representation of research methodology

DATA ANALYSIS AND INTERPRETATION

The chapter explain the data analysis methods adopted for the study based on the objectives. The analysis and interpretation of data for the current study was based on the information collected through interview schedule with structured questionnaire. The collected data was coded analyzed, organized tabulated and associated with selected demographic variables and the findings are interpreted in the following section.

Organisation of Data

SECTION A: Frequency and percentage distribution of demographic variables among elderly.

SECTION B: Frequency and percentage distribution of pretest level of stress among elderly in both control group and experimental group.

SECTION C: Frequency and percentage distribution of posttest level of stress among elderly in both control group and experimental group.

SECTION D: Comparison of pretest and posttest level of stress among elderly within the experimental group.

SECTION E: Comparison of pretest and posttest level of stress among elderly within the control group.

SECTION F: Effectiveness of posttest level of stress among elderly between experimental and control group.

SECTION G: Association of level of stress among elderly with their selected demographic variables in both experimental and control group. Effectiveness of posttest level of stress among elderly between experimental and control group. Association of level of stress among elderly with their selected demographic variables in both experimental and control group.

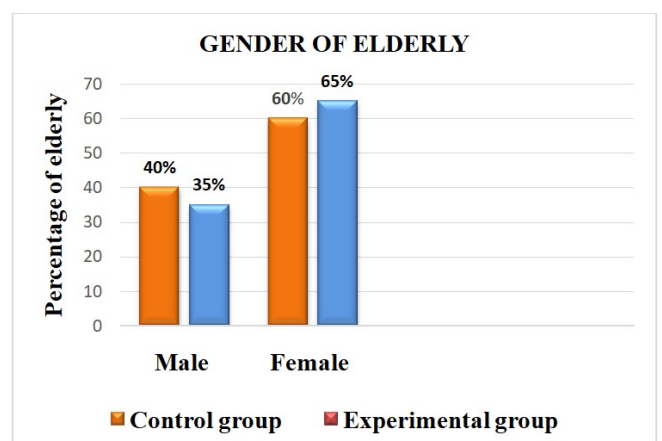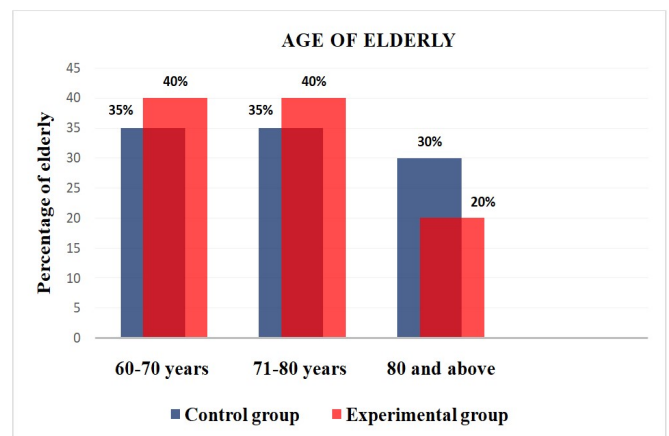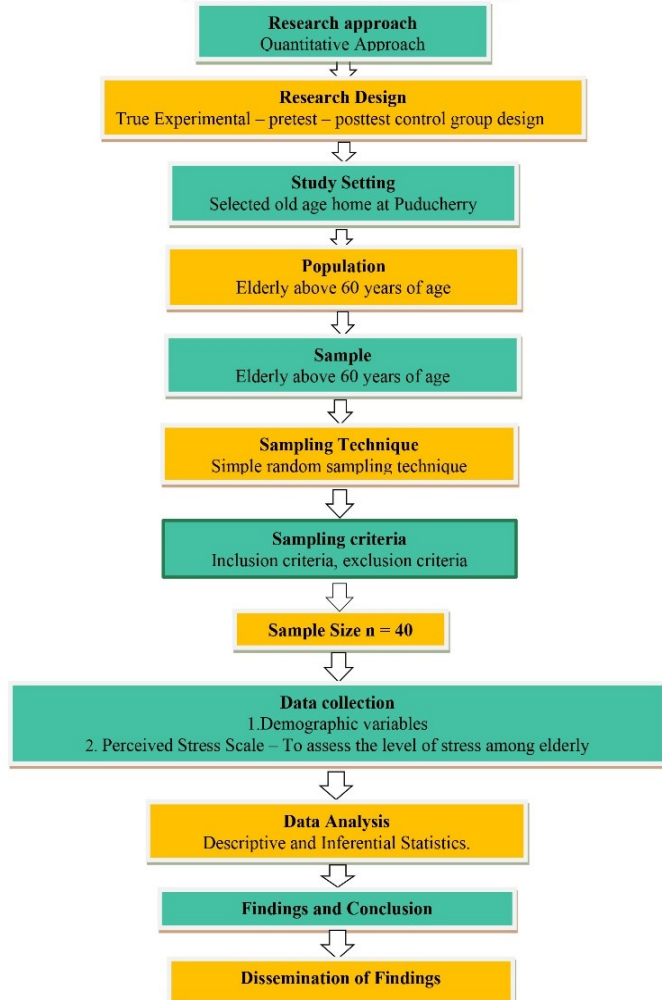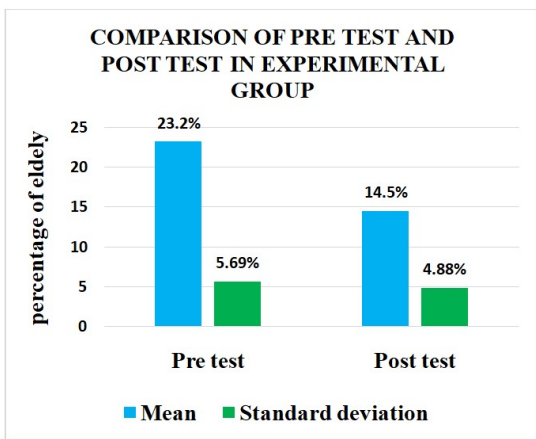**COMPARISON OF PRE TEST AND POST TEST IN EXPERIMENTAL GROUP**

DISCUSSION

An experimental study was conducted to determine the effectiveness of laughter therapy on reduction of stress among elderly in selected old age home in Puducherry. A simple random sampling technique was adopted by the investigator to select the 40 samples. This chapter is discussed under the following heading congruent with objectives formulated for this study.

Objectives

- To assess the pretest level of stress among elderly in both control and experimental group.
- To assess the effectiveness of laughter therapy on reduction of stress among elderly in experimental group compare with control group.
- To find out the association between on posttest level of stress among elderly with Socio demographic variable in experimental group.

OBJECTIVE: 1   To assess the pretest level of stress among elderly in both control and experimental group.

This study shows that the pretest reduction of stress among 40 samples 4(20.0)%, were in low stress 11(55.0)%, were in moderate stress 5(25.0)%, were in high perceived stress in posttest among 40 samples 8(40.0)%, were in low stress 12(60.0)%, were in moderate stress 0 (0.20)%, in high stress. The current study result was supported with the research study of Nilgun kuru alici et al. (2021) who conducted a study to assess the effectiveness of laughter therapy on life satisfaction and loneliness in older adults living in nursing home in turkey. The study was conducted by randomized control trail with pretest posttest design.62 elderly people was included in the study whereas, 31 were control group and 31 were experimental group.

Timeline	Group	Mean	Standard deviation	Mean difference	P value
Post-test	Experimental	14.50	4.88	6.9	0.001
	Control	21.40	6.83		

Significant at P<0.05

Sl.no	Variables	Components	Low stress N	Low stress %	Moderate stress N	Moderate stress %	P value
1	Age	60 years 70 years 80 years	4 3 1	50.0 37.5 12.5	4 5 3	33.3 41.7 25.0	0.69
2	Gender	Male Female	4 4	50.0 50.0	3 9	25.0 75.0	0.251
3	Religion	Hinduism Christianity Islam	6 2 0	75.0 25.0 0	9 2 1	75.0 16.7 8.3	0.65
4	Educational status	Professional degree Graduate Intermediate \diploma High school Middle school Primary school Illiterate	0 0 0 2 1 1 4	0 0 0 25.0 12.5 12.5 50.0	0 0 1 3 0 3 5	0 0 8.3 25.0 0 25.0 41.7	0.62
5	Marital status	Married Unmarried Divorced Windowed	6 0 0 2	75.0 0 0 25.0	10 1 0 1	83.3 8.3 0 8.3	0.45
6	Occupation	Professional Semi professional Clerical,Shop owner, Farmer Skill worker Semi-skilled worker Unskilled worker Unemployed	0 0 0 1 0 0 7	0 0 0 12.5 0 0 87.5	0 0 0 0 0 2 10	0 0 0 0 0 16.7 83.3	0.241
7	Income	Rs.2000 and above	8	100.0	12	100.0	
8	Number of Children	1 2 >2 No children	0 5 3 0	0 62.5 37.5 0	2 6 3 1	16.7 50.0 25.0 8.3	0.49
9	Any medical illness presents	Hypertension Diabetes mellitus Loss of memory Loss of hearing Kidney disease Cardiovascular system Respiratory system Central nervous system	6 1 0 0 0 0 0 1	75.0 12.5 0 0 0 0 0 12.5	7 3 0 1 0 0 1 0	58.3 25.0 0 8.3 0 0 8.3 0	0.49
10	Smoking history	Yes No	0 8	0 100.0	0 12	0 100.0	
11	History of alcoholism	Yes No	3 5	37.5 62.5	0 12	0 100.0	0.021*
12	Relaxation therapies	Meditation Others	7 1	87.5 12.5	10 2	83.3 16.7	0.79

Experimental group received laughter therapy twice a day for 6 weeks along with usual care. Loneliness was measured with the De Jong Gierveld loneliness scale and life satisfaction was measured with the life scale. After 6 weeks there was statistically significant difference in loneliness scale total score between the 2 groups and the subscale score of the experimental group decreased. This finding showed that laughter therapy was reduced loneliness in older adult.

OBJECTIVE 2: To assess the effectiveness of laughter therapy on reduction of stress among elderly in experimental group compared with control group.

This study shows that the paired 't' test value of stress in experimental group. The pretest mean score was 23.20 with a standard deviation of 5.69. The post-test mean score was 14.50 with standard deviation of 4.88. The calculated 't' value of $p<0.05**$, its clearly shows that the effectiveness of laughter therapy is decreasing the stress among elderly in experimental group.[12] This study shows that the paired 't' test value of stress on control group. The pre-test mean score was 21.40 with a standard deviation of 6.85. The post-test mean score was 21.40 with standard deviation 6.83. The calculated 't' value is 0, shows that it was statistically significant at the level of $p=1.0$ in control group.[13]

OBJECTIVE 3: To find out the association between on posttest level of stress among elderly with selective socio demographic variables in experimental group.

This study shows that there was a significant association between level of stress and history of alcoholism among the elderly. It was seen that participant with the moderate level of stress were nonalcoholic. The current study result was supported with the research study of Jatinder Kaur, Anupama, Muthukumaran (2022) to assess the effectiveness of laughter therapy on stress among elderly at old age home. The study was conducted by quasi experimental method.100 elderly people was included in this study whereas 50 were experimental group and 50 were control group at a selected old age home of Himachal Pradesh. The participants were selected by using convenient sampling technique. The data were collected using socio demographic profile and perceived stress scale. The result shows that the mean pretest score and standard deviation score of stress in experimental group is 20.85 ± 3.65 and 17.16 ± 3.31 of posttest respectively and the mean difference is 3.72 which is significant at $p>0.05$ which means the stress of elderly was reduced after implementation of the laughter therapy program. The finding reveals that the laughter therapy helps to promote wellbeing and reduce the stress of elderly will help them to provide care effectively.[14]

SUMMARY AND CONCLUSION

'The world we created is a product of our thinking' It cannot be changed without changing our thinking.

Albert Einstein

This chapter deals with summary, major findings limitations recommendation of the study to determine the effectiveness of laughter therapy among elderly in selected old age home at Puducherry. further it includes implications for nursing practice, nursing education, nursing administration and recommendation for further nursing research.

Objectives

- To assess the pretest level of stress among elderly in both control and experimental group.
- To assess the effectiveness of laughter therapy on reduction of stress among elderly in experimental group compared with control group.
- To find out the association between on posttest level of stress among elderly with selective Socio demographic variable in experimental group.

Stress is state of being under the pressure. The modern usage stress refers to being under a great deal of emotional, mental and social pressure for a long period of time. Aging process can be considered as stressful if they require great deal of concentration for a continuous period of time. Social environment and situation is also a mutual tolerance. There is 24 hours per day, so laughter therapy is an efficient way to reduce stress in everyday life. The researcher conducted a study to assess the effectiveness of laughter therapy to reduce stress among elderly people in selected old age home at Puducherry. The data was analyzed by using the descriptive statistics [Percentage, mean, standard deviation and inferential statistics] student paired 't' test and chi square test. The study findings were discussed based on this objective.

Implication of the Study: The findings of the study were implication of nursing education, nursing practice nursing research, nursing services and nursing administration.

Nursing Education: The nursing curriculum should include laughter therapy since laughter therapy is effective to reduce stress level among elderly people. Nurse educator need to have knowledge and awareness on laughter therapy. It is an effective measure to reduce the stress. Steps should be taken to include the assessment of stress among elderly.

Nursing administration: Nurse administrator can motivate the nurse to assess the stress among elderly and provision of laughter therapy to reduce their stress level. Nurse can update knowledge about various complementary therapies which are useful for clinical practice through in service and continuing education.

Nursing Practice: The nurse working in the hospital should be trained to assess the stress level among the elderly people and its consequences and the implementation of laughter therapy to reduce the stress level and adjunctively to other pharmacological treatment to reduce the stress level and wellbeing as factor recovery.

Nursing Research: The study has tested effectiveness of laughter therapy to reduce the stress level among the elderly people. There is great need of research to be conducted in the areas of stress disorder among elderly and on non-pharmacological nursing research need to focus more on the evidence based and holistic practice through understanding the various techniques that can bring reduce stress among elderly.

RECOMMENDATION

Keeping in view in these findings of the present study can be used as guide for future research

- A similar study can be replicated with a large sample in different settings.
- A similar study can be conducted to assess the effectiveness of other complimentary therapies on stress.
- A longitudinal study can be undertaken to find out the long-term effect of laughter therapy on stress.

CONCLUSION

Stress is a factor which causes more psychological problems in our life. It will occur when person has difficulty to deal with his life situation, problem and goals. Each person can handle stress differently. The study concludes that there was significant difference in level of stress before and after administration of laughter therapy among elderly residents of old age home. It was proven that laughter therapy was effective among elderly people as evident reduction of level stress as $p<0.5$. Thus, the study strongly suggests that Laughter therapy can reduce the stress level among old age people, which also elevates the nursing satisfaction of the patients.

Researcher felt laughter therapy can be effective non pharmacological, non-invasive therapy to reduce the stress level in elderly people.

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