Impact of Laughter Therapy on level of Stress and Quality of Life among the Elderly Residing at Selected Old Age Homes

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Abstract

Elderly are vulnerable to health problems especially psychological and mental issues. Complementary therapies play important role in prevention of mental illnesses. Therapeutic efficacy of laughter is mainly derived from spontaneous and self-induced laughter, occurring with or without humour. One group pre-test post-test interventional pilot study was conducted on 19 elderly residing at selected old age homes of Amritsar. Therapy was conducted in 16 sessions for one month (weekly, 4 days), on 4-6 elderly at one time. Post-test was conducted on day 30 to assess the level of Stress and Quality of Life. Data was collected using socio-demographic profile, Standardised Perceived Stress Scale-14, Standardised WHO Quality of Life (BREFF) scale with Interview technique. The study found that the laughter therapy was highly significant in relieving stress and improving quality of life among the elderly.

Key words: Laughter therapy, Stress, Quality of life, Elderly

As per National Policy on Older Persons, 'elderly' are persons above 60 years of age. Elderly population is predicted to account for one sixth of the total globally by 2030 and by 2050 one in every five persons would be above 60 years of age (World Population Ageing Highlights, 2020).

The elderly are more vulnerable especially to mental health issues. Prevalence studies have reported that the mental health problems among elderly are on much higher scale. Stress is more subtle, but if chronic, the eventual consequences are harmful. Stressed-out brains sound an alarm that releases potentially harmful hormones such as cortisol and adrenaline (Wilson, 2011). Causative factors include stressors as environmental, physiological, social and life style changes. Outcome can be a feeling of insecurity, rejection, need for approval/inability to cope with changed circumstances.

Quality of life (QOL) of the elderly at old age homes is different from those living with families. Dimensions like physical, psychological, social and environment affect their lives. WHO (2020) defines Quality of Life as an individual's perception of their position in life in context of their culture and value systems. Laughter therapy has gone beyond the one-on-one relationship between a therapist and elderly, helps minimise stress and improves quality of life.

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Need of the study: The elderly need care, attention, affection and mind diversion with various techniques and therapies. Studies indicate that laughter therapy creates marked difference in life; assessing it needs implementation and adequate analysis.

Review of Literature

Elahai & Sharma (2023) conducted a pilot study with quantitative research approach. They used pre-experimental design and non-probability convenient sampling technique for the research. The study was conducted for 3 weeks on 40 senior citizens at old age home. The tools consisting of demographic data and standardised DASS 21 stress scale were used. Laughter therapy was administered to the senior citizens. The data was collected, organised and analysed in terms of both descriptive and inferential statistics. The mean score of the senior citizens for stress was 21.65 with 34.36 percent before intervention while mean score of stress was 18.22 with 28.92 percent mean percentage. The pre-test median and SD of stress was 21 and 4.67 while the post-test median and SD was 18 and 4.02. The t test value for stress was 7.07. The calculated value i.e. 7.07 was more than tabulated value i.e. 1.96 at 39 df on 0.05 level of significance. So, the laughter therapy is effective to reduce the stress level among the senior citizens.

Objectives

The study was conducted with three objectives.

1. To assess the level of stress and quality of life among the elderly residing at old age home.

2. To compare the impact of laughter therapy on level of stress and quality of life among elderly residing at old age home.
3. To find association of level of stress and quality of life with selected demographic variables among elderly residing at old age home.

Hypothesis

H^1- There will be significant difference between pre-test and post-test scores of stress among the elderly at $p \leq 0.05$ level.

HO^1- There will be no significant difference between pre-test and post-test scores of stress among elderly at ≤ 0.05 level.

H^2- There will be significant difference between pre-test and post-test score of quality of life among elderly at ≤ 0.05 level.

HO^2- There will be no significant difference between pre-test and post-test score of quality of life among elderly at ≤ 0.05 level.

Methodology

One group pre-test post-test interventional pilot study was conducted on total of 19 elderly subjects at selected old age homes of Amritsar (Punjab). Out of the total 24 elderly only 19, who were eligible as per inclusion and exclusion criteria of non-probability convenient sampling were selected for the study conducted during time period of March to April 2023. Pre-test was conducted to assess the level of stress and quality of life. Laughter therapy were conducted in 16 sessions for one month (weekly 4 days), on 4-6 elderly at one time. Post-test was conducted on day 30 after therapy to assess the level of stress and quality of life. Data was collected by using *part A*: socio-demographic profile, *part B*: standardised Perceived Stress Scale-14, three tools: and *part C*: standardised WHO quality of life (BREFF) scale with Interview technique. Ethical permission was taken from the concerned authorities and written informed consent was taken from each participant.

The study protocol is laid in Table 1.

Table 1: protocol of the study

Days	Laughter therapy
Day 0	• Establish rapport. • Obtained informed consent. • Assess demographic variables. • Assess pre-test for the level of stress and quality of life.
Day 1-30	• Make groups of 4-6 elderly. • Laughter therapy session (each group/40-60 minutes/ per day.
Day 30	• Assessed post-test for the level of stress and quality of life (after last session).

Inclusion criteria : The elderly who are (a) residing in old age home from minimum six months; (b) at minimum 60 years of age; (c) able to understand English, Punjabi and Hindi; and (d) willing to participate in research project.

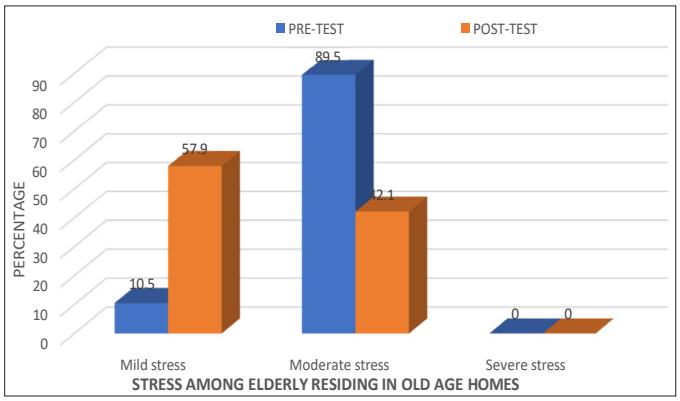
Exclusion criteria: The elderly who (a) have hearing or speaking disabilities; (b) have history of mental illness; and (c) are sufferings from severe stress.

Results

Percentage Distribution of Socio-Demographic Variables of the Elderly

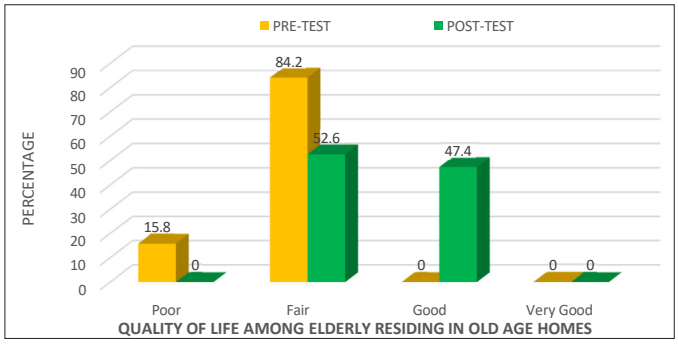
Most of the elderly were in the age group of 60-70 years. Out of 19, 13 were male, 8 elderlies had completed only secondary education. Nine were widow and duration of stay in old age home ranged between 6 months to 3 years; 11 elderlies belonged to nuclear families and were having no source of income. More than half (10) elderlies came voluntarily to stay in old age home. Almost every one (15) did physical activity daily; 11 elderlies had physical illness.

Fig 1: Distribution of pre-test and post-test level of stress among elderly residing in old age home (N=19)



During pre-test majority (n=17) of the elderly fall in moderate level of stress category, and only 2 elderly had mild level of stress (Fig 1). After the intervention, the strength in mild level of stress increased to 11 and only 8 remained in moderate

Fig 2: Distribution of pre-test and post-test level of quality of life among elderly residing in old age homes (N=19)



level. Fig 2. depicts that 84.2 percent of elderly had fair quality of life whereas 15.8 percent had poor quality of life; none had good and very good quality of life in the pre-test. After the intervention 47.5 percent came in good quality of life category and 52.65 in fair category. Table 2 depicts that there is markable difference between pre-test and post-test level of stress with the laughter therapy so it indicates high effectiveness in reducing stress level. Table 3 shows impact of laughter therapy pre-test and post-valves regarding quality of life measurement, as it have 'p' value of 0.00 1 that is highly significant.

Table 2: Impact of laughter therapy on level of stress among elderly residing at old age home (N=19)

Stress	Mean	SD	Mean D	t value	df	p value
Pre-test	30.95	2.83	4.0	3.137	18	0.006*
Post-test	26.95	4.67				

*p<0.05 level of significance; NS: Non significance

Table 3: Impact of laughter therapy on quality of life among elderly residing at old age home (N=19)

Quality of life	Mean	SD	Mean D	t value	df	p value
Pre-test	145.37	33.73	42.21	3.771	18	0.001*
Post-test	187.58	34.48				

*p<0.05 level of significance; NS: Non significance

The computed 't' value and 'p' value have a significant difference between the pre-test and post-test quality of life score of psychological, social relationship and environmental domain (Table 4).

Table 4: Domain wise impact of laughter therapy on quality of life among elderly residing at old age home (N=19)

Domains		Mean	SD	Mean D	t value	df	p value
Physical	Pre-test	41.26	13.97	6.26	1.609	18	0.125^{NS}
	Post-test	47.53	9.33				
Psycho-logical	Pre-test	36.63	15.42	16.78	3.900	18	**0.001***
	Post-test	53.42	9.82				
Social relation-ship	Pre-test	17.79	12.66	8.47	2.560	18	**0.020***
	Post-test	26.26	12.96				
Environ-mental	Pre-test	49.68	8.12	10.68	3.450	18	**0.003***
	Post-test	60.37	10.68				

Table 5: Association between pre-test and post-test stress among elderly with selected demographic variables in laughter therapy group (N=19)

Socio-demographic variables	Mean difference		F/t value	p value
	F	%		
Age in years				
60-70 years	4.80	3.67	2.412	0.121^{NS}
71-80 years	8.17	3.06		
81 years and above	3.67	3.21		
Sex				
Male	6.38	3.68	1.233	0.234^{NS}
Female	4.17	3.54		
Educational status				
Primary education	--	--	1.371	0.282^{NS}
Secondary education	6.70	4.57		
Higher secondary	5.0	1.77		
Graduation and above	1.0	0		
Marital status				
Married	3.60	1.67	0.763	0.532^{NS}
Unmarried	5.75	4.50		
Widow	6.78	4.20		
Divorce	6.0	0		
Previous occupational status				
Government job	--	--	0.552	0.586^{NS}
Private job	5.08	3.31		
Unemployed Self employed	7.20	5.21		
	5.50	0.70		
Present income source				
Yes	5.38	4.34	0.303	0.766^{NS}
No	5.91	3.36		
Previous type of family				
Nuclear	3.55	2.06	4.006	0.001*
Joint	8.62	3.46		
Duration of stay in old age home				
6 months – 3 years	5.89	3.98	0.740	0.493^{NS}
4-6 years	6.43	3.64		
7 years and above	3.33	3.05		
Type of admission				
Voluntary	6.90	3.95	1.571	0.135^{NS}
Involuntary	4.33	3.04		
Previous knowledge regarding relaxation therapy				
Yes	4.25	2.43	1.490	0.155^{NS}
No	6.73	4.19		
Frequency of physical activity				
Daily	4.87	3.52	2.020	0.059^{NS}
Occasionally	8.75	2.87		
Never	--	--		
Any financial help apart from family				
Yes	--	--	NA	NA
No	5.68	3.69		
Any physical illness/ disease				
Yes	6.18	3.48	0.677	0.507^{NS}
No	5.0	4.10		

*p<0.05 level of significance; NS: Non significance

Data in this Table 5 shows the association of pre-test and post test score of level of stress with socio-demographic variables. Only previous type of family showed significance with 'p'value 0.001. Table 6 shows the association of pre-test and post-test score of quality of life with socio-demographic variables. Only previous type of family showed significance with 'p' value 0.0016.

Table 6: Association between pre-test and post-test quality of life among elderly with selected demographic variables in laughter therapy group (N=19)

Socio-demographic variables	Mean difference		F/t value	p value
	F	%		
Age in years				
60-70 years	57.60	30.55	0.829	0.455^{NS}
71-80 years	36.50	30.59		
81 years and above	51.67	39.55		
Sex				
Male	52.92	34.88	0.584	0.567^{NS}
Female	43.67	24.22		
Educational status				
Primary education	--	--	0.085	0.919^{NS}
Secondary education	50.10	33.30		
Higher secondary	51.50	33.21		
Graduation and above	37.0	0		
Marital status				
Married	62.60	22.49	0.880	0.473^{NS}
Unmarried	47.50	36.53		
Widow	48.89	33.88		
Divorce	7.0	0		
Previous occupational status				
Government job	--	--	2.728	0.096^{NS}
Private job	57.92	30.81		
Unemployed Self employed	48.40	26.91		
	6.50	0.70		
Present income source			0.100	0.921^{NS}
Yes	50.88	32.12		
No	49.36	32.64		
Previous type of family				
Nuclear	64.27	23.56	2.683	0.016*
Join	30.38	31.66		
Duration of stay in old age home				
6 months-3 years	47.78	31.30	0.069	0.934^{NS}
4-6 years	50.29	36.16		
7 years and above	56.0	32.04		
Type of admission			1.755	0.097^{NS}
Voluntary	61.40	31.38		
Involuntary	37.33	28.02		
Previous knowledge regarding relaxation therapy				
Yes	57.88	28.80	0.925	0.368^{NS}
No	44.27	33.50		
Frequency of physical activity				
Daily	52.87	31.96	0.758	0.459^{NS}
Occasionally	39.25	31.63		
Never	--	--		
Presence of any financial help apart from family				
Yes	--	--		
No	50.0	31.52	NA	NA
Presence of any physical illness/ disease				
Yes	46.0	31.96	0.638	0.532^{NS}
No	55.50	32.20		

*p<0.05 level of significance; NS: Non-significance

Discussion

Stress, Quality of Life assessment

In pre-test, majority of the elderly felt moderate stress whereas after post-test, more than half of them experienced mild stress. On the other hand, pre-test revealed that majority of them had fair quality of life however after laughter therapy most of them (n=10) reported fair and good quality of life.

The study concluded that after laughter therapy, level of stress was reduced thus improving quality of life.

Impact of laughter therapy: This study has revealed that laughter therapy had significant impact on both, level of stress and quality of life with p-value 0.006 and 0.001 respectively.

Stress-QOL association: The study undertook several variables to study the association of level of stress and quality of life among elderly. From Table 5, it is clear that, the variable 'previous type of family' was found significant with p-value of 0.001 (level of stress) and 0.016 (QOL).

A pre-experimental supportive study was conducted by Walke (2021) to assess the effectiveness of laughter therapy on level of stress and assertiveness among elderly at old age homes in selected Areas Akluj. The results showed that in pre-test, 53.3 percent of the elderly had moderate stress and 46.7 percent had severe stress and after laughter therapy, in post-test, only 41.7 percent of the elderly had mild stress and 58.3 percent had moderate stress. Before laughter therapy, 53.3 percent had difficulty being assertive and 43.3 percent of them were non-assertive and 3.3 percent were naturally assertive (Score 30-40). After laughter therapy, 86.7 percent of them were non-assertive and 13.3 percent of them were naturally assertive.

Nursing Implications: As laughter therapy is cost effective and highly impactable so it can be included in day-to-day schedules of the elderly. It can be used in day care centres.

Recommendations

As this was a pilot study, such studies may be conducted on a large sample sizes.

For better assessment of impact, different variables can also be included in the study.

Conclusion

The study has concluded that the laughter therapy was highly significant in relieving stress and improving quality of life among the elderly residing in old age homes.

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लाफ्टर थिरैपी - हंसी से शारीरिक और मानसिक रोगों का प्राकृतिक उपचार

समस्याएं और तनाव हर किसी की जिंदगी में हैं। इसके बावजूद हम भलीभांति कैसे रहते हैं यह हमें सीखना होता है, अन्यथा स्वस्थ रहना मुश्किल हो जाएगा। हंसी को जीवन में ढ़ाल लेना चिंता और तनाव से बचे रहने का एक सरल उपाय है, प्रवृत्ति। प्राकृतिक उपचार की इस पद्धति में हंसने को एक व्यायाम की तरह अपनाया जाता है। यह थिरैपी खासतौर पर तनाव, चिंता, डिप्रेशन और अन्य मानसिक समस्याओं से राहत दिलाने के लिए प्रयोग में लाई जाती है।

हंसने से कैलोरी बर्न होती है। एक अध्ययन में पाया गया कि प्रतिदिन 10–15 मिनट हंसने से लगभग 40 कैलोरी बर्न हो सकती है। हंसी क्रोध के बोझ को हल्का कर देती है, आपसी रंजिश को दूर करती है।

लाफ्टर थिरैपी में हंसी का उपयोग करते हुए शारीरिक और मानसिक स्वास्थ्य को बेहतर बनाया जाता है। यह रोग प्रतिरोधक क्षमता बढ़ाने और हृदय स्वास्थ्य में सुधार में सहायक होती है। हंसे तो खुल कर, ऐसे में शरीर में एंडोर्फिन नाम का हार्मोन रिलीज होता है, जो मानसिक स्वास्थ्य को सुधारने में मदद करता है और तनाव को कम करता है। खुलकर हंसने से आपका दिल मजबूत होता है और ब्लड प्रेशर संतुलित रहेगा है। याद रहे, एंडोर्फिन प्राकृतिक दर्द निवारक और मूड बूस्टर की तरह काम करता है।

हंसी थिरैपी मानसिक स्पष्टता, रचनात्मकता और लचीलापन को बढ़ावा देती है। यह परिप्रेक्ष्य बदलने, चिंता कम करने और जीवन के प्रति सकारात्मक दृष्टिकोण विकसित करने में मदद करती है।

हंसी शरीर का एक प्राकृतिक व्यायाम है, इस प्रक्रिया में फेफड़ों की क्षमता बढ़ाती है, शरीर में ऑक्सीजन के स्तर में बढ़त होती है और शरीर में रक्त का संचार बेहतर होता है और हृदय स्वास्थ्य में सुधार होता है। हंसी मानसिक स्वास्थ्य में लाभकर है। लाफ्टर थिरैपी तनाव, चिंता और अवसाद को कम करने में मदद करती है। हंसने वाले जीवन को अधिक सकारात्मक रूप से देख सकते हैं।

लाफ्टर थिरैपी की विधि

हंसने की आदत वाले व्यक्ति अधिक प्रसन्न और मिलनसार पाए जाते हैं। लाफ्टर थेरेपी की शुरुआत धीरे–धीरे हंसने से करें। फिर हंसने की अवधि बढ़ाएं।

हंसने के व्यायाम विभिन्न प्रकार के हैं। जैसे हाथ से तालियां बजाना, पेट को हिलाना और हंसी की आवाज़ें दोहराना। सामूहिक तौर पर हंसना मित्रता तथा सहयोगिता की भावना को बढ़ाता है; ऐसी हंसी अधिक स्वाभाविक और मजेदार हो जाती है।

मुस्कुराना भी हंसी का रूप है। इस दौरान शरीर में खुशी के हार्मोन का स्राव होता है जिससे तनाव दूर होना सहज हो जाता है। लाफ्टर योग के अंतर्गत हंसी को एक योगासन के रूप में किया जाता है। नियमित हंसी के अभ्यास के साथ ये उपाय करें। हास्य वीडियो या मूवी देखें। चुटकुले पढ़ें।

– प्रकाशन एकक, टीएनएआई