Effects of Dance and Movement Therapy (DMT) versus Progressive Muscle Relaxation(PMR) on Depression among Elderly Residing in Selected Old Age Homes of Haryana: A Quasi Experimental Study

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Abstract

Depression is a universal health related problem which is increasing the life expectancy worldwide associated with morbidity and disability among elderly people. Elderly age group is a controversial issue as it is a natural process which presents a unique challenge for every individual in society. The objectives of the study were to assess and compare depression among elderly before and after administration of dance and movement therapy and progressive muscle relaxation, to determine the relationship between depression and to find out the association of depression with selected variables. Quantitative research approach, quasi experimental non equivalent control group pretest post test design was used to collect the data. Sixty participants (30 DMT group, 30 PMR group) were enrolled for the study those who fulfilled the inclusion criteria by using purposive sampling technique. Homogeneity was checked by enrolling the participants. Data was collected by using Geriatric Depression Scale (GDS) for assessing depression by interview technique. Analysis was done by applying non parametric test after K-S test to check normality of data. Thus findings of the study showed effectiveness of dance and movement therapy and progressive muscle relaxation on depression as the calculated Friedman test Chi square value (DMT χ^2 =51.44, p=0.00 and PMR χ^2 =52.91, p=0.00) was significant at 0.05 in both groups. There was no any significant difference between DMT and PMR groups in terms of depression. Depression among elderly was found to be statistically significant with duration of stay in old age homes and history of chronic illness i.e (Ψ=5.764, p=0.05) and (И=49.00, p=0.02) in DMT group, and depression among elderly was found to be statistically significant with history of chronic illness i.e (И=49.00, p=0.04) in PMR group. Conclusion: Dance and movement therapy and Progressive muscle relaxation was effective in reducing depression among elderly as there was significant difference within the group.

Keywords: *Depression, Dance and movement therapy, elderly, old age homes*

Introduction

Human beings have no exemption. The past era manifest substantial to increase in the population of elderly i.e a stratified set of medical, social, psychological, financial and ethical problems in elderly.[1] So there are predictable health problems among elderly which change or altered the elderly life and the most universal is depression.[2]

The world population is ageing and by 2025, the world's population is expected to include more than 830 million people at an age of 65 by 2030. With a relatively young population, India is still on the edge to become

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second leading number of elderly individuals in the world.[3, 4]

Depression is a state of low mood and disinclination or aversion to activity that can affect a individual's thoughts, behaviour, feelings, and sense of well-being. [5] The term "depression" can apply to a fleeting temper, or a constant change in temper/mood, a indication, or a disorder. Depression is categorized by constant low mood or sadness and is accompanied by both substantial and psychosomatic symptoms of at least two weeks period and with associated impact on social functioning.[6]

Dance therapy effects changes in feelings, cognition, physical functioning, and behavior.[7] Dance as psychotherapy has been used to recover from psychological and substantial well- being of a person.[8] Poco-Poco is the type of dance therapy which is used as the psychotherapy along with the music to relieve the mental illness.[9]

Progressive muscle relaxation is a psychotherapy that is used for relaxing mind and body by gradually tensing and soothing muscle of body.[10] Person will feels less pressure and have a good physical and emotional health. When the muscle is relaxed, the feelings of warmness and enormity are felt as a result.[11]

Elderly at the peak age feels impassiveness, worthlessness and insecurity, especially when living with these feelings in old age homes. It is very important to understand the factor which affects the quality of life of the elderly persons.[12,13] The quality of life also depends upon emotional interpretation that a person feels about life. Thus the quality of life is progressively more attributed as an estimation that is reliant on the person's prejudice.[14]

Methodology

The study was conducted during the period from October 2017- November 2018 in the state of Haryana, India. A sample of 60 elderly participated in this quasi experimental study with the prior permission from concerned authority of old age homes. Quantitative research approach was considered to be the most appreciated approach to assess the effectiveness of dance and movement therapy and progressive muscle relaxation on depression among elderly with non equivalent control group pre-test post-test design.

Inclusion Criteria: Elderly aged 60 years and above, residing in old age homes, willing to participate in the study, alert, oriented, and comprehend to respond, able to understand and speak Hindi and able to move without walking aids or any physical assistance.

Procedure

Screening was done on day 1with selected variables and by Geriatric depression scale for assessing depression with interview technique. Dance and movement therapy and progressive muscle relaxation was administered to elderly from 2nd day to 8th day as per intervention protocol. DMT contain 3 sessions i.e warm up session of 5 min duration followed by active session that involves all elderly to sit and do the chair step dance together for 20 min, further third session is for cooling or relaxing session for 5 min. Similarly Progressive muscle relaxation also include 3 sessions i.e warm up session that is done for 5 minutes followed by active sessions done for 20 minutes in this muscle are tensed for 5 seconds and relaxed for 20-30 seconds along with deep breathing and cooling session that is done for 5 minutes. Immediately after completion of 7 days intervention post test I was taken (day 8) and then after 1 week of post test I post test II was taken (day 16) for both DMT and PMR group.

Data Analysis

Descriptive statistics: Frequency, percentage distribution was used to describe selected variables, Chi-square was used to assess the homogeneity between two groups

Inferential statistics: Independent Mann-Whitney U test, Repeated measure Wilcoxon signed ranked test, Friedman test.

Results

Homogeneity was checked by χ^2 test was applied to compare the DMT and PMR group with respect to every selected variables. Hence both the group was homogenous except for gender (p=0.01).

Percentage distribution of DMT and PMR in terms of depression among elderly before administration of intervention is shown in Figure 1. In both group DMT

(80%) and PMR (67 %) majority of the elderly were having moderate level of depression.

In terms of Depression although the subjects in DMT group reported higher depression as compared PMR group, no significant difference was found between the group as calculated И value is (432) for depression among elderly and Z value 0.27 (p=0.78).

Similarly, И value in post test I and II was 434.5 and 352.5 respectively and Z value in post test I and II was -0.29 post test I (p=0.77) and -1.59 (p= 0.11) respectively.

Table 1: Mean rank, Sum of Rank, U and Z value of Depression after Administration of Dance and Movement Therapy and Progressive Muscle Relaxation among Elderly between DMT and PMR group

N=60

Observation	Group	Mean Rank	Sum of Rank	Mann-Whitney U Test (И)	Z value	p value
Depression (Pretest)	DMT group (n = 30)	31.10	933.00	432	0.27	0.78NS
	PMR group (n = 30)	29.90	897.00			
Depression (Post test I)	DMT group (n=30)	29.98	899.50	434.5	-0.29	0.77NS
	PMR group (n=30)	31.02	930.50			
Depression (Post test II)	DMT group (n=30)	33.77	1013.00	352.5	-1.59	0.11NS
	PMR group (n=30)	27.33	817.00			

NS -Not significant(p>0.05)

In DMT group the mean score of depression in pre test, post test I and post test II was 3.00, 1.38 and 1.62 respectively. Where the χ^2 (51.44) (p=0.00). Whereas in PMR group the mean score of depression in pre test, post test I and post test II scores was 3.00, 1.42 and 1.58 respectively. Where χ^2 (52.91) (p= 0.00).

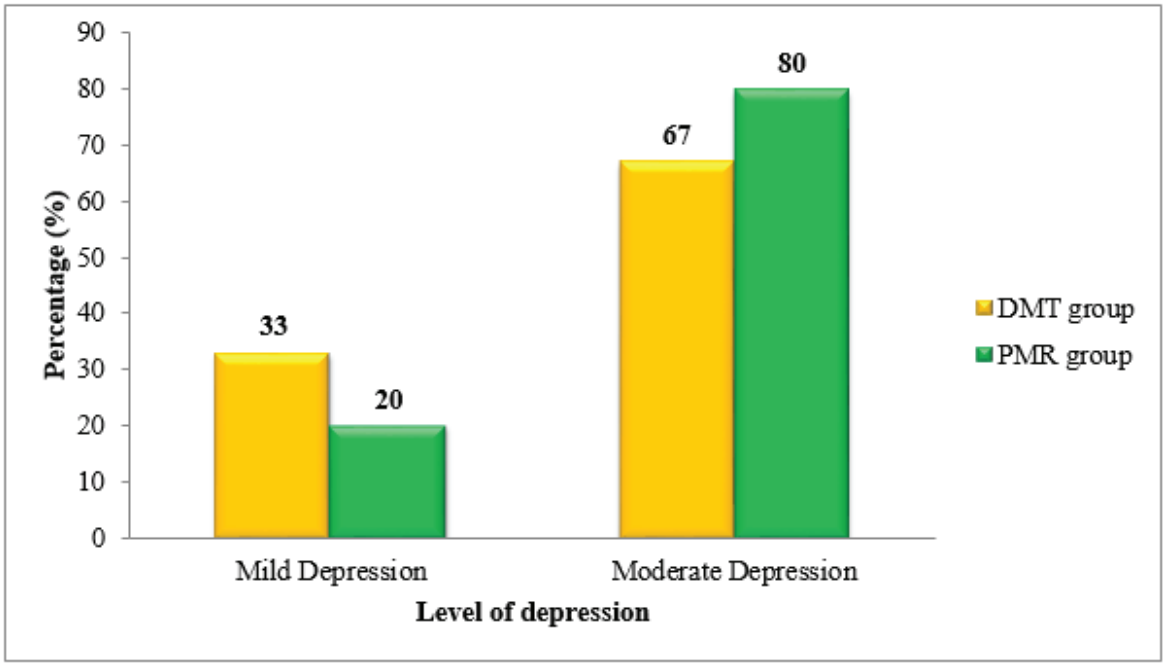

Figure 1 : Bar Diagram Showing Distribution of elderly in Terms of Level of Depression before Administration of Dance and Movement Therapy and Progressive Muscle Relaxation in DMT and PMR Group

Table 2: Friedman Test showing Mean Rank, Percentiles and Chi square value of Depression within the Group of DMT and PMR Groups

N= 60

Variable Depression	Test	Percentiles 25th	50th	75th	Mean Rank	Chi-Square	df	p value
DMT Group (n=30)	Pre test	8.00	10.00	10.25	3.00	51.44	2	0.00*
	Post test I	3.75	4.00	4.00	1.38			
	Post test II	4.00	4.00	4.00	1.62			
PMR Group (n=30)	Pre test	9.00	9.00	9.00	3.00	52.91	2	0.00*
	Post test I	4.00	4.00	4.00	1.42			
	Post test II	4.00	4.00	4.25	1.58			

χ^2 (2)=5.99 *- Significant ($p \leq 0.05$)

The results depicts the significant difference between pre test, post test I and Post test II i.e (p=0.00) in DMT group. This concludes that at the time of pre test participants had higher depression than post test I and post test II in DMT group and in post test I the participants had higher depression than post test II. Whereas in PMR group there was also significant difference between pre test, post test I and post test II i.e (p=0.00) respectively which shows that at time of pre test participants had higher depression than post test I and post test II.

Table 3: Wilcoxon Signed Ranked Test Showing Significant Mean Rank Difference within Groups in Term of depression in DMT and PMR group

N= 60

Group	Category	Z value	p value
DMT group (n=30)	Pre test Vs post test I	-4.81	0.00*
	Pre test Vs post test II	-4.81	0.00*
	Post test I Vs post test II	-2.00	0.04*
PMR group (n=30)	Pre test Vs post test I	-4.81	0.00*
	Pre test Vs post test II	-4.81	0.00*
	Post test I Vs post test II	-0.44	0.65NS

NS -Not significant(p>0.05) *- significant ($p \leq 0.05$)

Association of depression among elderly with selected variables was tested by Kruskal-Wallis (Ψ) and Mann- Whitney U test (И) among DMT and PMR group. Thus the findings revealed that in DMT group in post test I there was no significant association of depression among elderly with age, gender, religion, nature of previous habitat, educational status, marital status, source of income, duration of stay in old age homes, physical activities at present days, except duration of stay in old age homes and history of chronic illness i.e (Ψ =5.764, p=0.05) and (И=49.00, p=0.02) which was significantly associated with depression among elderly.

Further in post test II in PMR group, there was no significant association of depression among elderly with selected characteristic except history of chronic illness (И = 49.00, p=0.04).

Discussion

In the present study, two third of the elderly in DMT group were having moderate depression (67%) whereas in PMR group most of the elderly (80%) were having moderate depression before administration of intervention. The findings of the study is consistent with the study conducted by Deise AAP Oliveira, Lucy Gomes and Rodrigo F Oliveira et al. (2006) on prevalence of depression among elderly population at community centers in Taguatinga, where they found that half of the elderly (50%) were having moderate depression, least number of elderly were having mild depression (20%) and severe depression (14%) respectively.[15] Further these findings were contradictory to the study conducted by Ranjan et al (2013) where they found that 50 (70.42%) were having mild depression and 21(29.58%) had severe depression.[16]

In the present study Friedman test showed that there is a significant difference within the group in pre test, Post test I and Post test II in DMT group in terms of depression ($\chi^2 = 51.44$, p= 0.00). This infers that DMT was significantly effective in reducing depression. These study findings were similar to the study conducted by Vankova H. (2014) to evaluate the effects of dance and movement therapy on depressive symptoms where the result showed that there was significant difference within the group (p=0.00) in terms of depression in experimental group.[17]

In the presents study there was significant difference in terms of depression as calculated Friedman test for depression (F=52.91, p=0.00). It infers that progressive muscle relaxation was significantly effective in reducing depression. These findings are similar to the study conducted by Fong TCT, Cheung IKM and Yip PSF et al. (2016) on short term effects of dance and relaxation where they found that progressive Muscle relaxation was effective in reducing depression and improving quality of life as the calculated (p= < 0.05) was significant at 0.05 level of significance.[18]

In the present study there was a significant association of depression with selected variables after administration of DMT and PMR i.e duration of stay in old age home, and history of chronic illness as checked by using kruskal –wallis, Mann- Whitney U for depression which was significant at 0.05 level of significance. These findings are similar to the study conducted by Thilak SA, Sarada AK (2016) where they found that co-morbidity was associated with depression ($p \leq 0.05$) among elderly.[19]

Conclusion

Dance and movement therapy and Progressive muscle relaxation was effective in reducing level of depression among elderly

Conflict of Interest: NIL

Source of Funding: NIL

Ethical approval: Research ethics committee of Maharishi Markandeshwar (Deemed to be) University Mullana, Ambala (MMDU/IEC/973).

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