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A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF PHYSICAL ACTIVITY PROGRAM BASED ON WHO GUIDELINES ON QUALITY OF LIFE AMONG ELDERLY LIVING IN SELECTED COMMUNITY, WESTERN U.P

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ABSTRACT

Introduction: Population ageing is a major public health concern, and maintaining quality of life among older adults has become a healthcare priority. Physical inactivity is common among the elderly and is associated with chronic diseases, functional decline, and poor quality of life. In India, the growing elderly population and limited access to structured physical activity programs further increase these challenges. Therefore, the present study aimed to assess the effectiveness of a WHO guideline-based physical activity program on the quality of life among elderly individuals residing in a selected community of Western Uttar Pradesh.

Objective: To evaluate the effectiveness of physical activity program based on WHO guidelines on quality of life among elderly individuals at selected community area, Western U.P.

Methods: The study was conducted in Jai Bhem Nagar, Meerut among 65 elderly individuals by using convenient sampling technique who met the eligibility criteria and written consent was taken from sample. One group pre-test and post-test design were adopted. The data was collected with WHOQOL-BREF tool. After the implementation of the interventions for two months the post-test was conducted. Descriptive and inferential statistics were used for data analysis.

Results: Quality of life significantly improved following the WHO guideline-based physical activity program. The mean quality of life score increased from 41.38 ± 10.21 (pre-test) to 50.31 ± 13.06 (post-test), with a mean difference of 8.93. The improvement was statistically significant ($t = 4.34$, $p < 0.001$), demonstrating the effectiveness of the intervention. No significant association was found between baseline quality of life and selected demographic variables ($p > 0.05$).

Conclusion: The study concluded that the WHO guideline-based physical activity program was effective in improving the quality of life among elderly individuals in a selected community area of Western U.P. A significant increase in post-test quality of life scores was observed following the intervention. The findings also revealed no significant association between pre-test quality of life scores and selected demographic variables, indicating that the program was beneficial regardless of demographic characteristics.

KEYWORDS: Elderly, Physical activity, Quality of life, WHOQOL-BREF

INTRODUCTION

Population ageing is a growing public health concern worldwide. According to the World Health Organization (WHO), approximately 1 billion people were aged 60 years and above in 2020, and this number is projected to reach 2.1 billion by 2050. As the elderly population increases, maintaining quality of life (QOL) has become a major healthcare priority. Physical inactivity remains highly prevalent among older adults, with 32–35% of individuals aged 60 years and above failing to meet recommended physical activity levels. Globally, physical inactivity contributes to approximately 3.2 million deaths annually and is associated with increased risks of chronic diseases, functional decline, falls, depression, and reduced quality of life.

India is experiencing rapid population ageing, with more than 138 million older adults reported by the Longitudinal Ageing Study in India (LASI, 2020). Nearly one-third of Indian elderly individuals do not engage in adequate physical activity, while about 45% suffer from at least one chronic disease. In Uttar Pradesh, where the elderly population constitutes approximately 8–9% of the total population, limited awareness and access to structured physical activity programs further increase the risk of poor health outcomes and diminished quality of life.

The World Health Organization recommends regular aerobic, strengthening, balance, and flexibility exercises to promote healthy ageing. However, evidence regarding the effectiveness of WHO guideline-based physical activity programs among community-dwelling elderly individuals in Western Uttar Pradesh remains limited. Therefore, the present study aimed to

assess the effectiveness of a WHO guideline-based physical activity program on the quality of life among elderly individuals residing in a selected community of Western Uttar Pradesh.

OBJECTIVES OF THE STUDY WERE:

1.To assess the pre-test post-test level of quality of life among elderly individuals
2.To evaluate the effectiveness of physical activity program based on WHO guidelines on quality of life among elderly individuals
3.To find association between level of quality of life among elderly individuals with their selected demographic variables

METHODOLOGY

A quantitative research approach was adopted using a pre-experimental one-group pre-test and post-test research design. The study was conducted in Jai Bheem Nagar, Meerut, Western Uttar Pradesh. The population of the study comprised elderly individuals aged 60 years and above residing in the selected community. A total of 65 elderly participants who fulfilled the inclusion criteria were selected using a convenience sampling technique. Inclusion Criteria includes: includes: Elderly individuals who are medically stable, who are able to perform mild to moderate physical activity as per WHO guidelines, willing to participate in the study and who are available during the period of data collection. Exclusion Criteria includes: Elderly individuals who are bedridden or severely ill, with severe cognitive impairment or psychiatric illness, with hearing impairment that could interfere with understanding instructions, and individuals with severe visual impairment.

Data were collected using a structured demographic questionnaire and a Modified WHOQOL-BREF Scale to assess the quality of life of elderly individuals. Prior to the implementation of the intervention, a pre-test was conducted to assess the baseline quality of life. The physical activity program based on WHO guidelines, including strengthening, flexibility, and balance exercises, was then administered to the participants for 5 days per week, 30 minutes per day for 2 months. Following the intervention, a post-test assessment was conducted using the same tool to evaluate changes in quality of life. Descriptive and inferential statistics were used for data analysis. The effectiveness of the intervention was determined by comparing pre-test and post-test quality of life scores, and statistical significance was considered at $p < 0.05$.

RESULTS

The findings of study are presented according to the objectives of the study. The data is prepared under the subsequent sections:

Table-1 Frequency and percentage distribution of demographic variables of elderly individuals (N=65)

Demographic variables	**Frequency(f)**	**Percentage (%)**
Age in years		
60-69	37	56.92
70-79	23	35.38
>=80	5	7.7
Gender		
Male	34	52.3
Female	31	47.7
Others	0	0
Marital Status		
Married	40	61.5
Widowed/widower	25	38.5
Unmarried	0	0
Divorced	0	0
Religion		
Hindu	60	92.30
Muslim	5	7.7
Sikh	0	0
Christian	0	0
Education		
No formal	18	27.70
Primary	16	24.60
Secondary	13	20
Higher secondary	6	9.20

Graduate	11	17
PG and above	1	1.5
Dietary habits		
Vegetarian	52	80
Non vegetarian	13	20
Employment status		
Unemployment	48	73.80
Employment	17	26.20
Socio economic status		
Upper	6	9.30
Middle	40	61.5
Lower	19	29.2
Type of family		
Nuclear	28	43.1
Joint or extended	36	55.4
Living alone	1	1.5
Substance abuse		
Yes	0	0
No	65	100
History of chronic illness		
Yes	16	24.6
No	49	75.4

Table-2 Frequency and Percentage Distribution of Elderly individuals according to Pretest Post-test Level of Quality of Life (N=65)

S.NO.	Level of Quality of Life	PRE-TEST		POST-TEST	
		Frequency	Percentage	Frequency	Percentage
1	Poor	20	30.8%	08	12.3%
2	Moderate	45	69.2%	42	64.6%
3	Good	0	0%	15	23.1%
	TOTAL	65	100%	65	100%

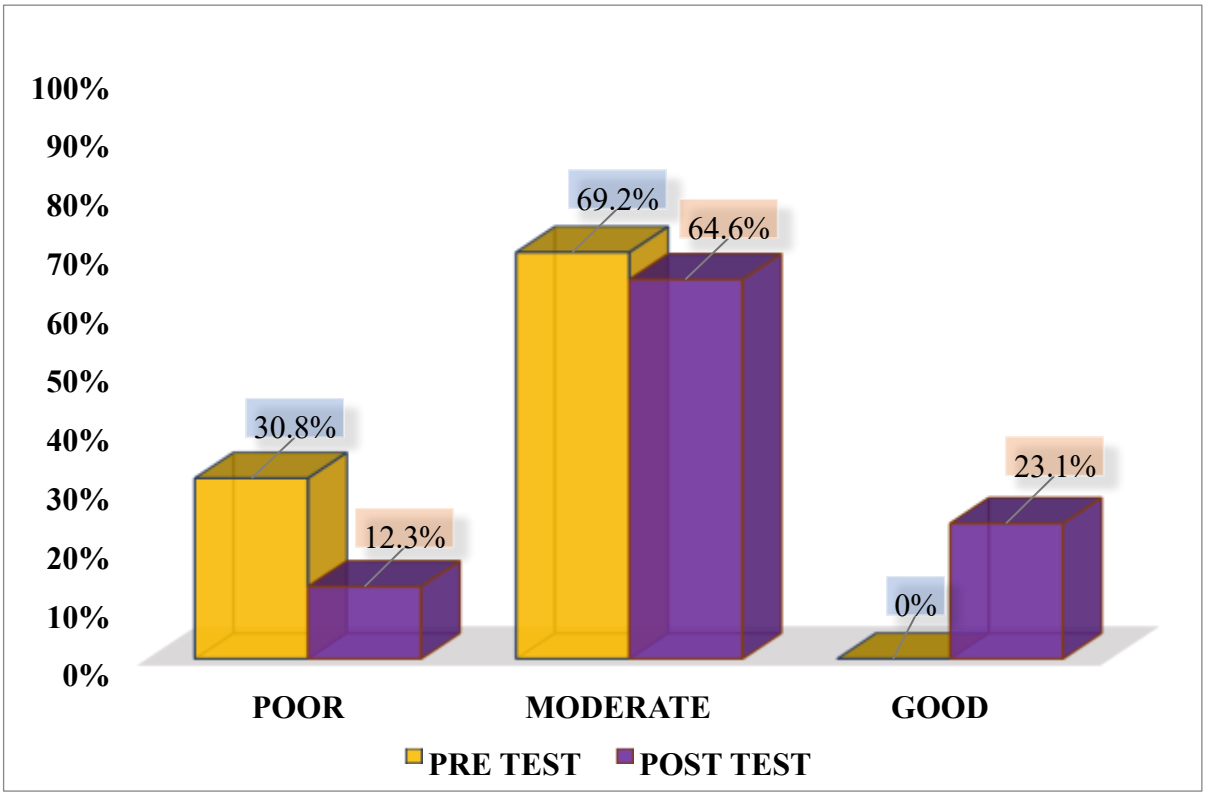

Figure-2 Percentage distribution of pre-test and post-test level of Quality of life

Table-3 Comparison between pre-test post-test mean scores of level of quality of life (N=65)

GROUP	Mean	Standard Deviation	Mean Difference	df	t-value	p-value	Interpretation
PRE-TEST	41.38	10.21	8.93	64	4.34	<0.001*	SIGNIFICANT
POST-TEST	50.31	13.06					

*(p<0.05 significant level)

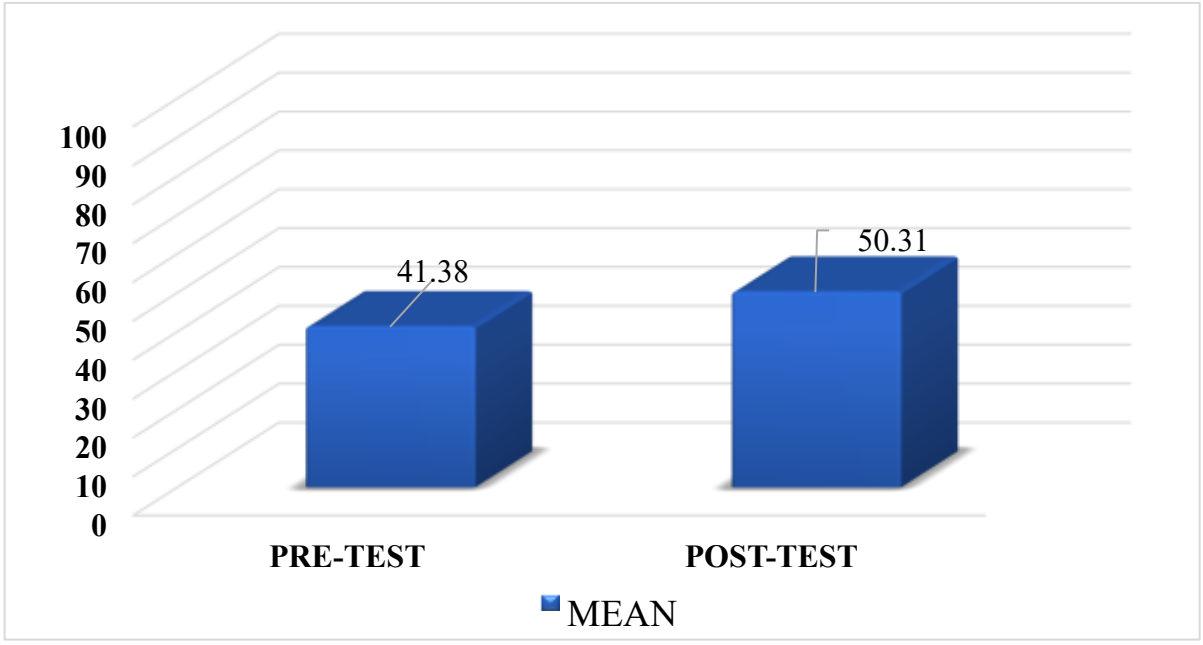

Figure-3 Bar diagram showing pre-test and post-test scores of level of quality of life

Table-4 Description of Association between Pre-test Quality of Life Scores and Selected Demographic Variables among Elderly individuals (N=65)

Demographic variables	Category	df	χ^2	p-value	Inference
Age in years	60-69 70-79 >=80	2	0.46	0.79	NS
Gender	Male Female Others	1	0.68	0.4	NS
Marital status	Married Widowed Unmarried Divorced	1	0.029	0.86	NS
Religion	Hindu Muslim Sikh Christians	1	2.41	0.12	NS
Education	No formal Primary Secondary Higher secondary Graduate PG and above	5	2.19	0.82	NS
Dietary habits	Vegetarian Non vegetarian	1	0.45	0.5	NS
Employment status	Unemployment Employment	1	1.17	0.27	NS
Socioeconomic status	Upper Middle Lower	2	1.25	0.53	NS
Type of family	Nuclear Joint or Extended Living alone	2	0.56	0.75	NS
Substance abuse	Yes No	NA	NA	NA	NA

History of chronic illness	Yes No	1	0.33	0.56	NS

*(p<0.05 significant level) NS-Non-Significant, NA-Not Applicable

DISCUSSION

The present study assessed the effectiveness of a WHO guideline-based physical activity program on the quality of life among elderly individuals in a selected community of Western Uttar Pradesh. The findings revealed a significant improvement in quality of life following the intervention, with the mean score increasing from 41.38 ± 10.21 in the pre-test to 50.31 ± 13.06 in the post-test ($t = 4.34$, $p < 0.001$). The improvement indicates that regular structured physical activity positively influences the physical, psychological, and social well-being of older adults. These findings are consistent with previous studies demonstrating the beneficial effects of physical activity on healthy ageing and quality of life. Sarulatha Haridass et al conducted a study between-group analysis of the POMA and SPPB was analysed using Kruskal-Wallis oneway analysis of variance, while within-group analysis used the Wilcoxon signed rank test, revealing significance in the conventional, PRE, and MDT groups ($p<0.001$). No significant association was found between baseline quality of life and selected demographic variables, suggesting that lifestyle factors such as physical activity may have a greater influence on quality of life than demographic characteristics as in similar study that is conducted by Ellisiv Lærum-Onsager et al shows no significant associations were found between the SF-36 subscale scores and underweight, but overweight was associated with lower scores on physical functioning (*B*: -8.7) and vitality (*B*: -6.8) compared to those with normal BMI ($p < .05$). The participants with rheumatic diseases, pulmonary diseases, hypertension and digestive diseases had significantly lower scores on most SF-36 scales reflecting physical health.

Overall, the study supports the implementation of WHO guideline-based physical activity programs as an effective community-based strategy to enhance the quality of life of elderly individuals.

NURSING IMPLICATIONS

Nursing Education

- Nursing curriculum should include more content related to geriatric care, healthy ageing, and physical activity interventions.
- Nursing students should receive training regarding community-based elderly care programs.
- Health education regarding WHO guidelines for physical activity among elderly should be emphasized during nursing education.
- Nursing education programs should encourage evidence-based approaches for improving quality of life among elderly populations.

Nursing Practice

- Community health nurses can educate elderly individuals regarding the importance of regular physical activity for maintaining good health and quality of life.
- Nurses can organize physical activity sessions for elderly individuals in community settings.
- Nursing professionals can motivate elderly people to adopt healthy lifestyle practices to prevent age-related complications.
- Nurses can regularly assess quality of life among elderly individuals and provide appropriate guidance.

Nursing Administration

- Nursing administrators should encourage implementation of community-based physical activity programs for elderly populations.
- Adequate facilities and resources should be provided for conducting health promotion activities among elderly individuals.
- Administrators can organize awareness programs regarding healthy ageing and physical activity.
- Policies promoting preventive and promotive care for elderly populations should be strengthened.

Nursing Research

- Further research studies can be conducted on larger samples to assess the effectiveness of physical activity programs among elderly populations.
- Comparative studies can be conducted between rural and urban elderly populations.
- Researchers can explore the long-term effects of physical activity on quality of life among elderly individuals.
- Additional studies can be conducted using different intervention strategies for improving elderly health and well-being.

RECOMMENDATIONS

- Similar studies can be conducted with larger sample sizes for better generalization of findings.
- A comparative study can be conducted between elderly residing in rural and urban communities.
- Longitudinal studies can be undertaken to evaluate long-term effectiveness of physical activity programs.
- Similar studies can be conducted using control groups for stronger research evidence.

- Studies can be conducted to assess the effectiveness of different types of exercise interventions among elderly populations.
- Educational programs regarding healthy ageing and physical activity can be developed for community-dwelling elderly individuals.

LIMITATIONS
- The study was limited to a small sample size of 65 elderly participants.
- The study was conducted only in one selected community area of Western U.P., which limits generalization of findings.
- The study used a non-probability convenient sampling technique.
- The study was limited to elderly individuals who were available and willing to participate during the period of data collection.
- The study duration was limited, and long-term follow-up assessment was not conducted.
- Responses of participants may have been influenced by personal understanding and cooperation during data collection.

CONCLUSION

The present study concluded that the physical activity program based on WHO guidelines was effective in improving the quality of life among elderly individuals residing in the selected community area of Western U.P. The findings demonstrated a significant improvement in post-test quality of life scores following administration of the intervention. Regular physical activity helped enhance physical well-being, functional ability, and overall quality of life among elderly participants.

The study further concluded that selected demographic variables did not have statistically significant association with pre-test quality of life scores. Therefore, physical activity can be considered an important and beneficial intervention for promoting healthy ageing and improving the quality of life among elderly populations irrespective of demographic differences.

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