

Impact Of Physical Activity On Quality Of Life

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Abstract

Background: The impact of physical activity on the quality of life is profound, encompassing physical, mental, and emotional dimensions. The aim of the study is to investigate the role of physical activities on quality of life.

Objective: To evaluate the impact of physical activity on quality of life. **Material and Method:** It was cross sectional analytical conducted in Department of Medicine, University of Lahore, Teaching Hospital and Saira Miraj Memorial Hospital, Lahore for the duration of 18 months. Study was conducted after the approval of synopsis from research ethical committee, The University of Lahore. Informed consent was taken from each participant. Data was collected according to the data collection sheets. Total 100 individuals were included. All individuals of both genders, age group 19- 40 years were included. **Results:** The mean age was 25.22 ± 6.78 years. There was 46 % female and 54% male Among Participants. The Pillai's Trace statistic is 0.947, indicating a strong effect of the physical activity on QOL. Wilks' Lambda statistic is 0.053, which signifies a substantial effect of the physical activity on QOL. The Hotelling's Trace statistic is 17.929, indicating a large effect of the physical activity on QOL. The p-value (Sig.) is 0.000, demonstrating a significant effect. Roy's Largest Root statistic is 17.929, suggesting a substantial effect of the physical activity on QOL. These results collectively indicate that the physical activity has a strong and significant impact on the QOL.

Conclusion: Results showed significant association between physical activity and health related quality of life. From baseline, 4 and 8 month strong effect and significant improvements of the physical activity was seen on quality of life.

Keywords: Exercise, Glucose, Health, Physical activity, Quality of life.

INTRODUCTION

Physical activity is a fundamental aspect of leading a healthy and fulfilling life. It goes beyond merely maintaining a fit physique; it has far-reaching effects on various aspects of our well-being. The impact of physical activity on the quality of life is profound, encompassing physical, mental, and emotional dimensions. Whether it's engaging in a sport, going for a brisk walk, or participating in a yoga class, regular

physical activity plays a pivotal role in enhancing overall well-being and promoting a higher quality of life. Physical inactivity throughout middle age appears to limit lifespan,¹ since studies have shown that it doubles health risks and adds a disease burden to society similar to smoking², obesity, and hypertension.³ Numerous studies indicate the numerous advantages of physical activity for health and disease, including a decrease in mortality rates.⁴ Evidence supporting the advantages of exercise and physical activity

for both physical and mental health is growing quickly.⁵ Many studies have revealed that frequent use and moderate exercise lowers the risk of coronary heart disease.⁶ Recent data suggests that these advantages might not just apply to coronary heart disease.⁷ Systolic pressure decrease brought on by exercise lower the chance of developing complications from type 2 diabetes, deaths from the condition, and suffering a myocardial infarction.⁸ Numerous long-term prospective follow-up studies have evaluated the relative risk of death from any cause and from certain diseases (such cardiovascular disease) linked with physical inactivity. These studies have primarily involved males, but more recently women as well.⁹⁻¹¹ Relative risk of death (about 20-30%)^{12,13} was shown to decrease in both men and women who reported higher levels of physical activity and fitness. Even larger decreases in the risk of mortality from any cause and from cardiovascular disease were found in a study.¹⁴ Decrease in physical activity will increase the risk of premature death and increase will reduce the risk. Even small improvements in physical fitness will decrease the risk.¹⁵

By studying the impact of lifestyle intervention programs and physical activity on quality of life, we can gain valuable insights into the potential

benefits of these interventions, inform health promotion strategies, and ultimately work towards improving the overall well-being and quality of life for individuals and communities.

MATERIAL AND METHOD

It was cross sectional analytical conducted in Department of Medicine, University of Lahore, Teaching Hospital and Saira Miraj Memorial Hospital, Lahore for the duration of 18 months. Study was conducted after the approval of synopsis from research ethical committee, The University of Lahore. Informed consent was taken from each participant. Data was collected according to the data collection sheets. Total 100 individuals were included. All individuals of both genders, age group 19- 40 years were included. The quality of lifestyle interventions, either alone or in combination was included. We conducted physical activity as part of the intervention in the 4th week and 8th week. Each individual followed a planned exercise such as taking a walk every morning and evening, exercise vigorously for 20 or more minutes at least three times a week, take part in light to moderate physical activity such as sustained walking 30-40 minutes 5 or more times a week.

Results:

Table 1: Cronbach's Alpha for Different Scales and Number of Items.

Scales	Cronbach's Alpha	N of Items
Baseline	.811	36
4 Weeks	.774	36
8 Weeks	.765	36
Quality of Life - Scale	.787	36

Based on this table, it can be inferred that the measure has reasonably good internal consistency across the different administrations. The values range from 0.765 to 0.811, which

suggests that the items in the measure are relatively closely related to each other in all four instances.

Table 2: MULTIVARIATE TESTS FOR PHYSICAL ACTIVITY EFFECT ON QUALITY OF LIFE.

Effect		Value	F	Hypothesis df	Error df	Sig.
QOL	Pillai's Trace	.947	878.510 ^a	2.000	98.000	.000
	Wilks' Lambda	.053	878.510 ^a	2.000	98.000	.000
	Hotelling's Trace	17.929	878.510 ^a	2.000	98.000	.000
	Roy's Largest Root	17.929	878.510 ^a	2.000	98.000	.000

This test examines the overall impact of the physical activity on QOL. The Pillai's Trace statistic is 0.947, indicating a strong effect of the physical activity on QOL. The p-value (Sig.) is 0.000, suggesting a highly significant effect of the physical activity. Wilks' Lambda statistic is 0.053, which signifies a substantial effect of the physical activity on QOL. The p-value (Sig.) is 0.000, indicating a significant effect. The Hotelling's Trace statistic is 17.929, indicating a

large effect of the physical activity on QOL. The p-value (Sig.) is 0.000, demonstrating a significant effect. Roy's Largest Root statistic is 17.929, suggesting a substantial effect of the physical activity on QOL. The p-value (Sig.) is 0.000, indicating a significant effect. These results collectively indicate that the physical activity has a strong and significant impact on the QOL.

Table 3: ANOVA Results for Physical activity and Quality of Life (QOL)

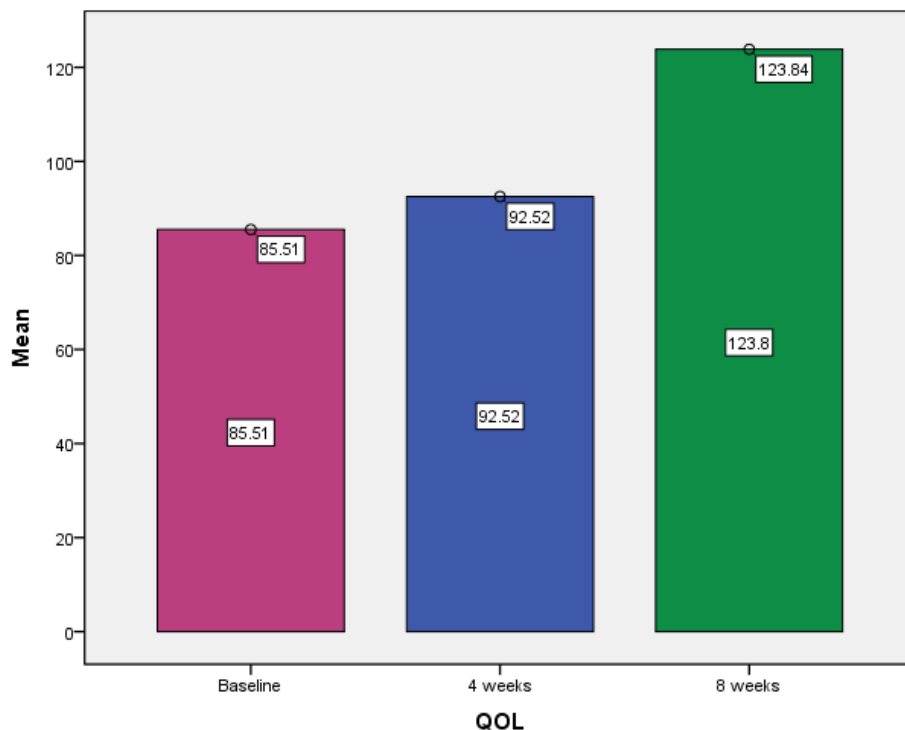
Source	QOL	Type III Sum of Squares	df	Mean Square	F	Sig.
QOL	Linear	73459.445	1	73459.445	906.222	.000
	Quadratic	9849.602	1	9849.602	123.988	.000
Error (QOL)	Linear	8025.055	99	81.061		
	Quadratic	7864.565	99	79.440		

These tests examine specific contrasts or comparisons within the levels of the physical activity. The sum of squares for the linear contrast of the QOL variable is 73459.445. The mean square for the linear contrast is 73459.445. The F-statistic is 906.222. The p-value associated with the F-statistic is 0.000, indicating a significant linear effect of the physical activity. The mean square for the quadratic contrast is 9849.602. The F-statistic is 123.988. The p-value associated

with the F-statistic is 0.000, indicating a significant quadratic effect of the physical activity.

Overall, the results suggest that both the linear and quadratic contrasts of the physical activity have significant effects on the quality of life.

Figure 1: Graph shows significant effect of physical activity on quality of life.



Discussion:

Physical activity has a significant impact on the quality of life in multiple ways. Engaging in regular physical activity and leading an active lifestyle can bring about numerous benefits that enhance overall well-being. Physical activity supports and helps obese patients to maintain weight which protects them against multiple conditions such as cardiovascular diseases, diabetes and hypertension etc. A study was conducted on association between physical activity and quality of life, interestingly physical activity showed positive strongest association with life satisfaction among quality of life outcomes.¹⁶

Current study showed significant improvements and strong effect of physical activity on quality of life. A review was conducted on published researches from 2000 -2012, the summary of the study evidence indicated that the physical activity was consistently associated with quality of life.¹⁷ These correlations suggest that PA may support both key mental aspects of QOL and physical

independence. However that reviews showed moderate association between physical activity and quality of life. Another systematic review was conducted on the general population have shown a significant association between QOL and PA.¹⁸

A study was conducted in 2015 by Jia, results showed significant improvement in quality of life at 6 and 12 months when compared to baseline¹⁹ these results are consistent with our study. Current study also showed significant improvements in quality of life at 4 and 8 months when compared to baseline. A follow-up study was conducted for three years, after three years results found that those individuals who maintained physical activity had higher quality of life scores. Physical activity was also associated with improved mental health in elderly individuals.²⁰ A study was conducted by Collins et al, results showed significant increase of 10.4 in the quality of life score in the intervention group.²¹ Results of another study showed that those individuals who maintained physical

activity had higher quality of life scores and had positive association with mental health and bodily pain.²² Another study was conducted on women health, the group of physically active women had higher scores in the social functioning and mental health. For both men ($p=0.01$) and women ($p=0.001$), overall QOL scores increased as PA levels increased. In the domains of physical functioning ($p0.001$), social functioning ($p=0.004$), and bodily pain ($p=0.002$), more active women had higher QOL scores. The role-emotional ($p=0.006$), vitality ($p=0.08$), and physical functioning ($p=0.020$) areas all showed higher scores in the group of males who were most active.²³ When compared to inactive and insufficiently active people, active people had significantly higher QOL scores in the physical functioning and vitality domains ($p 0.001$). When compared to those who were insufficiently active, inactive people had significantly poorer QOL scores in the physical functioning and vitality dimensions ($p 0.05$).²⁴ Overall, physically active individuals consistently showed higher quality of life scores, particularly in domains such as physical functioning, vitality, social functioning, and bodily pain, compared to inactive or insufficiently active individuals. Inactive people tended to have poorer quality of life scores in physical functioning and vitality dimensions. These findings highlight the importance of regular physical activity in promoting a better quality of life and overall well-being.

Conclusion:

Results showed significant association between physical activity and health related quality of life. From baseline, 4 and 8 month strong effect and significant improvements of the physical activity was seen on quality of life.

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