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Comparison of Fitness Among Middle-Aged and Old Aged Overweight and Obese Men in Gyms of Lahore

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ABSTRACT

Background: Physical Exercises Increase the endurance as well as help in weight reduction and fitness. Among middle aged patients sedentary life style increases the risk of cardiovascular disease. Improved life style helps in avoiding the cardiovascular diseases. **Objective:** To compare the level of fitness among over weight and obese men in different Gym of Lahore. **Study Design:** Cross-sectional study. **Settings:** The participants were selected from the different gyms of Lahore Pakistan. **Duration:** The study completed in 4 months from April 02, 2016 to August 01, 2016. **Methods:** This study was comparative cross-sectional study. The participants were selected from the different gyms of Lahore. The total participants were 138. Our study was about the comparison of fitness in middle age and old age overweight and obese men. The study was divided into two groups Group A (middle aged) and Group B (old aged). The questionnaire consists of 19 items based on questions regarding fitness. The Chi-square test is used for comparison of two groups. The data was analyzed by using SPSS 20. **Results:** Out of 138 respondents 127(92%) were overweight and 11(8%) were obese. The answer of the respondents was divided into three options i.e. yes, no and unsure. Out of 138 respondents (27.5%) respondents had pain or discomfort, (21.7%) dizziness or syncope, (26.8%) orthopnea, (33.3%) edema, (36.2%) palpitation or tachycardia, (42.0%) intermittent claudication, (34.8%) abnormal heart murmurs and (27.5%) had shortness of breath. **Conclusion:** There is no difference in the level of fitness of the middle and old age. Due to the age they are unable to achieve the fitness level.

Keywords: *Fitness level, Middle age, Old age, Obese, Gym.*

INTRODUCTION

The cardio vascular diseases (CVD) takes place due to the extra fat or due to the disturbance of metabolic rate in the body.[1] If the physical activity increased then the fitness level of the body or of the cardiorespiratory also increased.[2] The physical activity always give the fitness which is related to the heart disease.[3] If there is decrease in exercise the intake of oxygen also decreases due to this the supply of the oxygen may decrease.[4] The movement of body is necessary to reduce the weight of the body which helps to change the cardiorespiratory rate. Due to this the capacity of the muscles also changes.[5]

If there is no movement of the body then there is increase of fat in the body which leads to different kinds of diseases i.e. CVD and diabetes.[1] The major reason of coronary disease is the overweight and obesity.[6] When the person performs exercise there is change in the cardiorespiratory rate and the exercise helps in reducing the fat and weight of body.[7] When the life style is improved by performing exercise and different trainings then the body weight decrease.[8] In the US, the cardiorespiratory disease decreases by improving the lifestyle and solving the social problems related to disease.[9]

If body does not perform work then the circulation of blood will become irregular especially in South-Asian people. [10] If we improve the lifestyle then we can control the risk of hypertension and other cardiovascular diseases.[11] The fitness is related with the age but the use of tobacco, alcohol or any past myocardial dead tissue, and valve of heart not performing well the decrease the

fitness level.[12] If the body either male or female is not performing well then the fitness level decreases among them.[13] It is proved that if the cardiorespiratory or oxygen level in the body is not working properly, the risk of the cardiac disease increases.[14] There is much importance of the fitness if it is ignored in the medical point view even then many kinds of diseases were present related to fitness.[15] The fact is that many heart diseases are linked with the fitness level which may be due to the narrowing of the arteries.[16] The men with decrease in level of fitness have high death rate because of the increased body fat.[17] The physical movement even related with the neurodegenerative disease if the fitness level is improved then the risk of neurological diseases may reduce.[18] Clinically, BMI (age, weight, height) is considered the important factor which helps in improving the fitness level and reducing the risk among the individuals.[19] The physical activity performed by the individual so that they can perform the exercise which may improve the fitness level.[20] After bariatric (gastric bypass) surgery, the fitness level is improved to reduce the risk.[21] This study was aimed to compare fitness level among middle and old aged and overweight as well as obese population gyms.

METHODS

This comparative cross-sectional survey was conducted after the approval from institutional review board. A sample of 138 participants was selected using convenient sampling technique. Data was collected from different gyms of Lahore. Participants were divided into two groups i.e. group A consisted of middle aged males (40-55 years) and Group B consisted of Old aged males (>55 years). Overweight and obese males (BMI≥24.9) were included in the study. informed consent was taken prior to data collection. Level of fitness was measured using fitness assessment questionnaire. The questionnaire consists of 19 items based on questions regarding fitness.

RESULTS

In this study 138 respondents were selected among them 127(92%) were overweight and 11(8%) were obese.

Table 1: Frequency distribution of various items of Fitness assessment questionnaire

	Age of the patients	Yes	Unsure	No	p-value
Do you Smoke?	Middle-Aged	41		27	0.499
	Old Age	38		31	
	Total	79 (57.2%)		58 (42.0%)	
Member of Health Club	Middle-Aged	30		39	0.100
	Old Age	45		24	
	Total	75 (54.3%)		63 (45.7%)	
Have you been exercising regularly for the past 6 months	Middle-Aged	38		31	0.733
	Old Age	36		33	
	Total	74 (53.6%)		64 (46.6%)	
Shortness of breath	Middle-Aged	37	16	16	0.386
	Old Age	29	21	19	
	Total	66(47.38%)	37(26.81%)	35(25.36%)	
Pain or Discomfort	Middle-Aged	31	21	17	0.712
	Old Age	17	32	20	
	Total	38(27.5%)	63 (45.7%)	37 (26.8%)	
Dizziness or Syncope	Middle-Aged	13	22	34	0.226
	Old Age	17	28	24	
	Total	30 (21.7%)	50 (36.2%)	58 (42.0%)	
Orthopnea / Paraoxymal Nocturnal Dyspnea	Middle-Aged	22	23	24	0.325
	Old Age	15	30	24	
	Total	37 (26.8%)	53 (38.4%)	48 (34.8%)	
Edema	Middle-Aged	30	17	22	0.041*
	Old Age	16	23	30	
	Total	46 (33.3%)	40 (29.0%)	52 (37.7%)	
Palpitation or Tachycardia	Middle-Aged	30	17	22	0.106
	Old Age	16	23	30	
	Total	50 (36.2%)	51 (37.0%)	37 (26.8%)	
Intermittent Claudication	Middle-Aged	29	20	20	0.668
	Old Age	29	24	16	
	Total	58 (42.0%)	44 (31.9%)	36 (26.1%)	
Heart Murmur	Middle-Aged	24	17	28	0.977
	Old Age	24	18	27	
	Total	48 (34.8%)	35 (25.4%)	55 (39.9%)	

*Chi square test, *p-value significant at 0.05, - no response of participants*

Out of 138 respondents 79 (57.2%) smoke, 1(0.7%) drink, 75 (54.3%) been a member of health club, 74 (53.6%) been exercising regularly for last 6 months. Among respondents 38 (27.5%) respondents have pain or discomfort, 30(21.7%) have dizziness or syncope, 37(26.8%) have orthopnea, 46 (33.3%) have edema, 50 (36.2%) have palpitation or tachycardia, 58 (42.0%) have intermittent claudication, 48 (34.8%) have abnormal heart murmurs, 38 (27.5%) have shortness of breath. (Table 1)

Out of 138 respondents 37(53.62%) reported with shortness of breath and there was no significant association between age and shortness of breath (p-value>0.05). 31(44.93%) reported with pain or discomfort and showed non significant association between age and shortness of breath (p-value>0.05).17 respondents showed non significant association between age and pain or discomfort (p-value>0.05). Non ssignificant association between age and orthopnea (p-value>0.05) showed by 22 respondent. 22 reported with palpitation or tachycardia and showed non significant association between age and palpitation or tachycardia (p-value>0.05). Only 30 reported with edema and showed significant association between age and edema (p-value>0.05). Out of 138 respondents 29 reported intermittent claudication and showed non significant association between age and intermittent claudication (p-value>0.05). 24 respondents with heart murmur and 41 with shortness of breath during exercise also showed non-significant association with age (p-value>0.05). Out of 138 respondents 45 member of health club and 38 reported exercise regularly also showed non-significant association with age (p-value>0.05).

DISCUSSION

Obesity is the major cause of the disease worldwide.[1] Improved life style helps in avoiding the cardiovascular diseases. In this research, the contribution of physical activity improves the fitness level has been discussed.[2,3] In pervious researches there is discussion about the health status and on the control of the obesity. But this research is on the fitness level among the people of middle and old age.[7,8] Obesity has a major impact on CVD, and is associated with reduced overall survival.[2,3,6]

The pervious researches done on the obesity in the foreign countries. But in Pakistan, there was research on the method of controlling the obesity or on the treatment of obesity and its related diseases. I discussed about the comparison of fitness in middle and old age people and how it is improved to enhance the fitness among them. In the previous research, it is discussed that people with less physical activity suffer from the heart disease and in my research it is discussed that fitness level is attain when physical activity is performed.[3] The people who are physically fit can perform the exercise but it is done in the foreign countries but in this research it is discussed that the people of middle and old age can achieve the level of fitness and can perform the physical activities.[1]

The current compared the fitness among middle age and old age overweight and obese men. Out of 138 respondents (92%) were overweight and (8%) were obese. The study participants were selected and the fitness assessment questionnaire and waiver was analyzed along with the demographic information. The questionnaire was divided into three parts i.e. Pain/Discomfort Level (at rest/excretion), Shortness Of Breath (at rest/excretion), Dizziness/Syncope (at rest/excretion), Orthopnea/ Paroxysmal Nocturnal Dyspnea, Edema (accumulation of tissue fluid), Palpitations/Tachycardia, Intermittent Claudication, Heart Murmur (abnormal heart sound), and Unusual Fatigue, along with the demographic information, current health status and life style practices and aims to do with the maintenance of healthy life style.

The nine items inventory i.e. in which participants were asked about the healthy experience they are seem happening with them. The answer response was divided into three options i.e. yes, no and unsure. Out of 138 respondents (27.5%) respondents had pain or discomfort, (21.7%) had dizziness or syncope, (26.8%) had orthopnea, (33.3%) had edema, (36.2%) had palpitation or tachycardia, (42.0%) had intermittent claudication, (34.8%) had abnormal heart murmurs, (27.5%) had shortness of breath. The more the physical activity is performed the more fitness level is improved which may decrease the risk of disease.[22] If you are determined to reduce weight then the risk of cardiac diseases and diabetes mellitus in the obese men will also decrease this may increase the level of amount of oxygen in the body.[23] If there is low fitness level and show the careless attitude towards the health this may increase the chances of disease.[24]

The overall health status of the participants seemed to be changed at a certain point. We found that, in general, a significant improvement of cardiovascular risk factors was achieved during the lifestyle intervention. We used the one-way chi – square test for the various variables to find out the any association among the study variables mentioned in the questionnaire inventory we had inquired form the study participants.

CONCLUSION

From this research it is concluded that there is no significant difference in the level of fitness in middle and old age men. The most of the people does not exercise regularly for the improvement of the fitness level and hadn't join any health club which help them in improving their health.

LIMITATIONS

The results are least generalizable and with a study with no follow up.

SUGGESTIONS / RECOMMENDATIONS

Further studies with large sample size and different age limit comparison in children or women can vary results.

CONFLICT OF INTEREST / DISCLOSURE

There is no conflict of interest.

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REFERENCES

1. Piché ME, Tchernof A, Després JP. Obesity Phenotypes, Diabetes, and Cardiovascular Diseases. Circ Res. 2020 May 22;126(11):1477-1500.
2. Bellicha A, Ciangura C, Poitou C, Portero P, Oppert JM. Effectiveness of exercise training after bariatric surgery-a systematic literature review and meta-analysis. Obes Rev. 2018 Nov;19(11):1544-1556.
3. Sattar A, Ehsan S, Mahmood T, Khalil R, Arshad S. Physical activity and health-promoting practices among female medical students. Nutrition. 2019;2(516):4.
4. Audzijonyte A, Barneche DR, Baudron AR, Belmaker J, Clark TD, Marshall CT, et al. Is oxygen limitation in warming waters a valid mechanism to explain decreased body sizes in aquatic ectotherms?. Global Ecology and Biogeography. 2019 Jan;28(2):64-77.
5. Poole DC, Copp SW, Colburn TD, Craig JC, Allen DL, Sturek M, O'Leary DS, Zucker IH, Musch TI. Guidelines for animal exercise and training protocols for cardiovascular studies. Am J Physiol Heart Circ Physiol. 2020 May 1;318(5):H1100-H1138.
6. Elagizi A, Kachur S, Lavie CJ, Carbone S, Pandey A, Ortega FB, Milani RV. An Overview and Update on Obesity and the Obesity Paradox in Cardiovascular Diseases. Prog Cardiovasc Dis. 2018 Jul-Aug;61(2):142-150.
7. Sultana RN, Sabag A, Keating SE, Johnson NA. The Effect of Low-Volume High-Intensity Interval Training on Body Composition and Cardiorespiratory Fitness: A Systematic Review and Meta-Analysis. Sports Med. 2019 Nov;49(11):1687-1721.
8. Maio GD, Monda V, Messina A, Polito R, Monda M, Tartaglia N, et al. Physical activity and modification of lifestyle induce benefits on the health status. 2020: 1913-1919. https://fair.unifg.it/handle/11369/395394
9. Gupta R, Wood DA. Primary prevention of ischaemic heart disease: populations, individuals, and health professionals. Lancet. 2019 Aug 24;394(10199):685-696.
10. Solomon H. Epidemiology in motion: Traumatic brain injuries in Mumbai. South Asia: Journal of South Asian Studies. 2021 Nov 2;44(6):1131-45.
11. Mahmood T, Mujahid Z, Mahmood W, Tariq K, Salam A. Comparison of Physical Fitness Between Rural and Urban Physical Therapy Students Studying in Lahore, Pakistan. Annals of Punjab Medical College. 2018 Apr 12;12(2):112-6.
12. Byrne CD, Targher G. Non-alcoholic fatty liver disease-related risk of cardiovascular disease and other cardiac complications. Diabetes, Obesity and Metabolism. 2022 Feb;24:28-43.
13. Lynch H, Johnston C, Wharton C. Plant-based diets: Considerations for environmental impact, protein quality, and exercise performance. Nutrients. 2018 Dec 1;10(12):1841.
14. Park W, Jung WS, Hong K, Kim YY, Kim SW, Park HY. Effects of moderate combined resistance-and aerobic-exercise for 12 weeks on body composition, cardiometabolic risk factors, blood pressure, arterial stiffness, and physical functions, among obese older men: a pilot study. International Journal of Environmental Research and Public Health. 2020 Oct;17(19):7233.
15. Reddy OC, van der Werf YD. The sleeping brain: harnessing the power of the glymphatic system through lifestyle choices. Brain Sciences. 2020 Nov 17;10(11):868.
16. Mahmood T, Maqsood U, Raza SZ, Zaka H, Aziz A, Saleem N. Association of body mass index with fitness index among male and female physical therapy students in Lahore. Foundation University Journal of Rehabilitation Sciences. 2021 Jul 18;1(2):45-9.
17. Invernizzi PL, Crotti M, Bosio A, Cavaggioni L, Alberti G, Scurati R. Multi-teaching styles approach and active reflection: Effectiveness in improving fitness level, motor competence, enjoyment, amount of physical activity, and effects on the perception of physical education lessons in primary school children. Sustainability. 2019 Jan 15;11(2):405.
18. Tabesh MR, Maleklou F, Ejtehadi F, Alizadeh Z. Nutrition, physical activity, and prescription of supplements in pre-and post-bariatric surgery patients: a practical guideline. Obesity surgery. 2019 Oct;29(10):3385-400.
19. Højen M. Associations of physical activity with risk factors of diabetes type 2 in young adults: A cross-sectional study (Master's thesis). 2022.
20. Mehmood T, Mehmood W, Maqsood U, Salam A, Sefat N. Level of Actual Physical Fitness and its Perception among Students of Physiotherapy in Lahore. Journal of Liaquat University of Medical & Health Sciences. 2019 Apr 10;18(01):60-4.
21. Russeng SS, Saleh LM, Awaluddin M, Mallongi A. Intervention model for barotrauma diseases to improve health and safety diving behaviors in traditional fishermen in small islands in Makassar, Indonesia. Sys Rev Pharm. 2020 Sep 1;11(9):597-600.
22. Kumar VRS, Choudhary SK, Radhakrishnan PK, Bharath RS, Chandrasekaran N, Sankar V, et al. Lopsided Blood-Thinning Drug Increases the Risk of Internal Flow Choking Leading to Shock Wave Generation Causing Asymptomatic Cardiovascular Disease. Glob Chall. 2021 Jan 29;5(3):2000076.
23. Wilson MG, Hull JH, Rogers J, Pollock N, Dodd M, Haines J, et al. Cardiorespiratory considerations for return-to-play in elite athletes after COVID-19 infection: a practical guide for sport and exercise medicine physicians. Br J Sports Med. 2020 Oct;54(19):1157-1161.
24. Forte M, Schirone L, Ameri P, Basso C, Catalucci D, Modica J, Chimenti C, Crotti L, Frati G, Rubattu S, Schiattarella GG, Torella D, Perrino C, Indolfi C, Sciarretta S; Italian Society of Cardiology Working group on Cellular and Molecular Biology of the Heart. The role of mitochondrial dynamics in cardiovascular diseases. Br J Pharmacol. 2021 May;178(10):2060-2076.