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ISCHEMIC HEART DISEASE; SEDENTARY LIFESTYLE AS A MAJOR RISK FACTOR OF ISCHEMIC HEART DISEASE.

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ABSTRACT... Objectives: To analyze the association between sedentary life style and Ischemic heart disease. **Design:** Analytical study. **Settings:** Faisalabad institute of cardiology Faisalabad. **Duration of Study:** 1st November 2017 to 30 April 2018. **Sample Size:** Sample size was 200 as calculated by WHO sample size calculator. **Sampling Technique:** Non probability convenient sampling. **Subjects:** All patients diagnosed with acute myocardial infarction Patients and methods; 200 patients presenting in outdoor for routine follow up checkup who were diagnosed cases of ischemic heart disease included in the study. **Results:** 200 patients with a history of acute myocardial infarction and capable of responding to a questionnaire were included in the study. 43% of the patients had history of sedentary lifestyle. Among five major risk factors, SLS stood second after diabetes according to my study. **Conclusions:** In patients with acute MI, there was significant number of patients who had history of sedentary lifestyle. Sedentary Lifestyle is going to be a major risk factor of ischemic heart disease.

Key words: Sedentary Lifestyle (SLS), Ischemic Heart Disease (IHD), Health Hazard.

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INTRODUCTION

Sedentary lifestyle include a lifestyle with less than 120 minutes of exercise per week (4 sessions of 30 minutes each). It also includes a lifestyle where the majority of waking hours is spent off the feet, either sitting or lying down.

The little or no physical activity can potentially be avoided as a preventable cause of many diseases.

In 2020 cardiovascular disease is going to claim 25 million mortalities in the world.¹ The incidence of the disease is rising despite of advances in the field of early and better diagnosis ant superior level of treatments. The slow rising in the mortality rate, associated with this disease in developed countries that has taken place in recent decades. The coronary artery disease is more prevalent day by day. But recent technologies are trying to treat promptly. We fail to control cardiovascular

risk factors, such as diabetes mellitus, obesity, smoking and sedentary lifestyle. Increase in the use of fast foods with a high caloric value is also an issue to address.

Increasing physical exercise should be promoted through media also. Decreased daily activity is becoming a significant problem and becoming widespread day by day.^{2,3} WHO states in its 2010 report on prevalence of non-communicable diseases, approximately 3.2 million people die each year due to physical inactivity, which becomes the fourth most important risk factor leading to mortality in the world (6% of all deaths), surpassed only by hypertension (13%), smoking (9%), and diabetes mellitus (6%).⁴

In recent years, more studies are going to see the effects of sedentary behavior on the increasing events of cardiovascular disease and its risk. A good person should do physical activity and

should avoid sedentary behavior to remain healthy wealthy.⁵

The relationship between the risk factor of SLS of the patients and occurrence of ischemic heart disease is going to be evaluated in this study.

Warning Issued by WHO about Physical Inactivity

4 APRIL 2002 - the occasion of World Health Day, WHO said that, increasing trend of Physical inactivity can produce major problems for health of the communities. It is warning issues by WHO that SLS may be one of the top ten mortality causes in the world in the near future.

Sedentary lifestyle is going to accelerate many problems. A list of some problems include, cardiovascular diseases, diabetes mellitus and central obesity, risk of colon cancer, high blood pressure, osteoporosis, dyslipidemia, depression, anxiety and other psychological problems. From both developed and developing countries, 60 to 85% of people in the world are living sedentary lifestyle. We should address this general public health problem properly. Childhood sedentary life style is another major issue which will affect future health of the kids.

“The habit of maintaining a healthy lifestyle, including regular exercise and a nutritious diet ideally begins in childhood and we hope that parents and schools everywhere will use this day to spread this message,” said Dr Gro Harlem Brundtland, WHO’s Director-General.

WHO recommend moderate physical activity

for up to 30 minutes at least 5 days a week, smoking, avoidance and healthy and balanced diet.

MATERIAL AND METHODS

Design

Analytical study.

Settings

Faisalabad institute of cardiology Faisalabad.

Duration of Study

1st November 2017 to 30 April 2018.

Sample Size

Sample size was 200 as calculated by WHO sample size calculator.

Sampling Technique

Non probability convenient sampling.

Statistical Analysis

The data was entered in SPSS 23 and analyzed. The frequencies of the patients presenting with history of MI with risk factors evaluation were entered and interpreted. The results were showed in the form of tables.

RESULTS

200 patients with a history of acute myocardial infarction and capable of responding to a questionnaire were included in the study. The evidence of previous MI was confirmed from previous record with the patient or from the hospital record. 43% of the patients had history of sedentary lifestyle. The sedentary lifestyle was defined as less than 120 minutes exercise per week. Among five major risk factors, SLS stood second after diabetes according to my study.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 45 years	90	45.0	45.0	45.0
	More than 45 years	110	55.0	55.0	100.0
	Total	200	100.0	100.0	

Table-I. Age of patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	94	47.0	47.0	47.0
	No	106	53.0	53.0	100.0
	Total	200	100.0	100.0	

Table-II. Diabetes mellitus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	84	42.0	42.2	42.2
	No	115	57.5	57.8	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

Table-III. Hypertension

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	47	23.5	23.6	23.6
	No	152	76.0	76.4	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

Table-IV. Dyslipidemia

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	86	43.0	43.2	43.2
	No	113	56.5	56.8	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

Table-V. Sedentary lifestyle

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	81	40.5	40.7	40.7
	No	118	59.0	59.3	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

Table-VI. Smoking

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	74	37.0	37.2	37.2
	No	125	62.5	62.8	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

Table-VII. Family history of ischemic heart disease

DISCUSSION

Some aspects of sedentary behavior pathophysiology have been revealed, We are going to propose some pathophysiological mechanisms to explain our findings.^{6,7,8,9} Some recent studies have findings that the prolonged sitting can adversely affect skeletal muscle contractile periodic stimulation leading to dysfunction of enzyme lipoprotein lipase secretion regulation.¹⁰ Enzyme lipoprotein lipase is protective for the vascular endothelium. High level of glucose in blood, triglyceride, and free fatty acid levels can produce an elevated levels of

free radicals. Free radicals have adverse effects on endothelium function. It can lead to accelerate a process of biochemical chain reactions leading to endothelial dysfunction of endothelium.¹¹

It has also been pointed out that there is strong correlation between unhealthy and unbalanced dietary and eating habits and a SLS. It may be a confounding factor that is going to confuse the result of some studies about health hazards of sedentary lifestyle. Sedentary lifestyle behaviors in young generation and adolescents are going to evidence based strong predictor of central

obesity and juvenile diabetes mellitus.^{6,12}

We know, worldwide this trend of increasing inactivity is spreading. In Spain, 47% of the studied population is living sedentary lifestyle (Health Ministry, Government of Spain, 2006). Most of the published reports focus more on the calculation of time of physical inactivity or the measured time to watch TV or playing video games. Studies show that Spain probably has one of the most sedentary and inactive populations in Europe.¹³

It is very complex but necessary preventive health role to promote physical activity through appropriate campaign programs. We need cost-effective and productive intervention to produce the best results in this regard. We need to focus on two things at a time, one is health promotion activities to encourage people to lead active lifestyle, second is to foresee increased number or cardiovascular events due to inactive lifestyle.¹⁴

This article is written with the passion to realize the readers to think about their lifestyles. Our living attitude can change the situation of controlling many diseases. For example if we eat less and balanced, we can avoid obesity. If we control obesity, we can reduce incidence of DM. If we control diabetes, we can avoid a lot of complications of diabetes. We say government is giving less budget for health. This is the responsibilities of healthcare providers to educate the community to avoid disease occurrences. Small measure in time done will help avoidance of major health problems in future.

How to be less sedentary?

It is important to note that a sedentary lifestyle is a modifiable risk factor. This means that it can be changed unlike some of the other risk factor such as genetics.

Walk As Often As Possible

Even if you have a desk job, you should take the opportunity to walk as much as possible. Simply, standing upright uses many more muscles than sitting. A simple measure like taking the stairs rather than using the elevator can be beneficial.

Stretching Exercises Every Hour

If your job does not allow you to walk around, you can still do simple stretching exercises. This is known as non-exercise activity thermogenesis (NEAT). Stand up, stretch, bend and turn. It is not as effective as walking or jogging for 10 minutes but NEAT is better than not exercised at all. Just 10 minutes every hour is sufficient.

Lunchtime Workouts

Your one hour lunch break can be a good opportunity. Take a 30 minute walk rather than sitting down after lunch and waiting till its time to get back to your desk.

Before and After Work Exercise

Just consider waking up just 30 minutes earlier in the morning. Just do some simple workouts at home before you jump to get ready for your office. You may not need expensive and too many gym equipment's like a treadmill. Simply jogging on the spot, doing some pushups for around 30 minutes is better than not doing any exercise at all.

Choose More Active Past Times

When we are not at work, not doing fruitful activities, Television, computers, laptops and mobile devices with charm of internet, keep us sitting. Try to switching off all your electronic devices and choose more physically demanding and active past times at home and at office. It can be as simple as gardening at house or light gym activities. Try to limit sedentary leisure time to less than an hour in a working day.

CONCLUSION

In patients with acute MI, there was significant number of patients who had history of sedentary lifestyle. Sedentary Lifestyle is going to be a major risk factor of ischemic heart disease. This is modifiable major risk factor.






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AUTHORSHIP AND CONTRIBUTION DECLARATION

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5	Naeem Asghar	Comception + Study design	
6	Huma Muzaffar	Data interpretation	