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SECTION 20. Medicine.

POSITIVE ROLE OF PHYSICAL ACTIVITY IN PATIENTS WITH GERD

Abstract: Objective: Objective of this study was to determine significance of physical activity in controlling symptoms of gastroesophageal reflux disease.

Design and Setting: This is a cross sectional study. This study was conducted in DHQ Teaching Hospital Gujranwala Medical College Gujranwala, Pakistan.

Duration: Study was started in January 2018 and completed in December 2018 consisted on 7 months duration.

Patients and Methods: Total 600 cases were selected randomly from the attendants or relatives of patients who were living in the study hospital with their patients. A Performa was designed containing all necessary questions like age, gender, GERD symptoms, physical activity, time interval between dinner and going to bed to sleep. Ages of these patients were ranging from 20 to 75 years with mean age of 49.8 years. Mostly patients with GERD symptoms were above 45 years of age and they were not having habit of physical activity after taking meal. Cases with co-morbidities like heart, renal or liver disease and history of smoking or alcoholism or taking drug for any disease in previous six months were not included in the study. Sample size was calculated according to prevalence of disease 28%. With the help of Doctors of each ward questionnaire was translated into language of the subject and their answers were noted down. Cases were distributed into two main groups, those having GERD symptoms were kept in one group and those not having symptoms were kept in separate group. Data from both groups was obtained and calculated in the form of frequencies and percentage. Data was analyzed using Microsoft office and SPSS version 2014. Results were presented in the form of frequency tables and graphs.

Results: There were 600 cases in this study. Out of them 260(43.3%) cases were having symptoms of GERD and 340(56.7%) were not having symptoms. In age group of 20-30 years 38.3% were having symptoms and 61.6% did not. Similarly between ages of 31-40 years in 43.7% cases symptoms were present and in 56.3% were absent, in age group 41-50 years 45.4% had symptoms, in cases with 51-60 years age 43.6% had symptoms, 44.2% cases in 60-70 years age group were having symptoms and in 46.9% cases above 70 years of age were suffering from symptoms of GERD. There were 51% female cases with GERD symptoms out of total 303 cases and 35.4% cases from 297 males gave history of GERD symptoms. It was seen that mostly cases with gastroesophageal disease belonged to male population. These symptoms were less in those cases that used to take physical activity after meals and go to bed 4 hours after dinner in 74.1% out of 193 cases. Most common symptom was retrosternal or epigastric pain or burning sensation in 75.4% cases out of those with GERD. Bitter or sour taste was reported in 49.6% and chronic cough due to reflux disease were found in 14.2% cases.

Conclusion: Gastroesophageal disease is very common problem mostly in male population. It is most common in old age. Post meal physical activity and delay in sleep after having dinner reduces symptoms of GERD.

Key words: Gastroesophageal reflux disease, retrosternal burning, Post meal Physical activity.

Language: English

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INTRODUCTION

Our daily unhealthy routine life has made us prone to many diseases. Due to lack of proper physical activity gastrointestinal diseases occur.¹ Most common GI disease is gastroesophageal reflux

disease. This disease is associated with unhealthy life style such as insufficient physical activity; smoking, alcoholism and stress are main risk factors. In this study we determined role of physical activity in reducing incidence of gastroesophageal reflux



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disease and minimizing symptoms in patients with GERD disease.^{2,3} Patients with GERD has symptoms of retrosternal burning, chest pain, epigastric pain, sour throat, bitter taste, chronic cough due to chronic GERD etc. This disease has high prevalence in Asian countries as compared to European countries. Causes of this disease are decreased lower esophageal sphincter tone, delayed gastric emptying or diaphragmatic hernia. This disease can be prevented by healthy life style such as post meal walk, increasing time interval between meal and sleeping, cessation of smoking, coffee, tea, avoid of extra stress and use of healthy food.⁴ There are various investigations to evaluate cause of disease such as esophageal manometry and 24 hr PH monitoring, endoscopy and chest x ray for evaluating diaphragmatic hernia. People of Asian countries have more prevalence of this problem because of stressful working environment, congestive working places promoting stress and financial issues mostly in people of underdeveloped countries like Pakistan, India and Nepal. This problem is more common among the people of low socioeconomic status.⁵⁻⁶ Treatment of GERD includes post meal walk, body posture while sleeping, 3-4 hours interval between dinner and sleep, use of H₂ blockers and Omeprazole. Long duration of GERD may lead to complications such as chronic cough, exacerbation of asthma, barret esophagus, middle ear infection, body weakness due to indigestion of food and decreased body immunity. Obesity is associated with GERD. Such people should reduce weight to get rid of gastroesophageal reflux disease. Ethnicity, climate, physical parameters are associated with incidence of this disease. Many studies have been done on presenting symptoms of GERD and its management but less work has been done on its associated factors and causes.^{7,8} According to studies conducted in western developed countries results were different from our study. Other differential diagnosis of such patients with GERD may be Peptic ulcer disease, gastric outlet obstruction, pyloric stenosis, diaphragmatic hernia or esophageal motility disorder. Change of life style is very important in controlling GERD symptoms.

Patients and Methods

This is a cross sectional study done in a teaching hospital. This study was completed in a duration of 7 months. Total 600 cases were selected randomly from the attendants or relatives of patients who were living in the study hospital with their patients. Most common GI disease is gastroesophageal reflux disease. This disease is associated with unhealthy life style such as insufficient physical activity; smoking, alcoholism and stress are main risk factors. In this study we determined role of physical activity in reducing incidence of gastroesophageal reflux

disease and minimizing symptoms in patients with GERD disease. A Performa was designed containing all necessary questions like age, gender, GERD symptoms, physical activity, time interval between dinner and going to bed to sleep. Ages of these patients were ranging from 20 to 75 years with mean age of 49.8 years. Mostly patients with GERD symptoms were above 45 years of age and they were not having habit of physical activity after taking meal. Cases with co-morbidities like heart, renal or liver disease and history of smoking or alcoholism or taking drug for any disease in previous six months were not included in the study. Sample size was calculated according to prevalence of disease 28%. With the help of Doctors of each ward questionnaire was translated into language of the subject and their answers were noted down. Cases were distributed into two main groups, those having GERD symptoms were kept in one group and those not having symptoms were kept in separate group. Data from both groups was obtained and calculated in the form of frequencies and percentage. Data was analyzed using Microsoft office and SPSS version 2014. Results were presented in the form of frequency tables and graphs. Those patient having other diseases such as CKD, CLD, IHD, tuberculosis or any other disease associated with GERD were not included in this study. Only those cases were included who were not having any other chronic disease and no history of smoking or alcoholism, NSAIDs or aspirin use in last six months.

Results

There were 600 cases in this study. Out of them 260(43.3%) cases were having symptoms of GERD and 340(56.7%) were not having symptoms. In age group of 20-30 years 23(38.3%) were having symptoms and 37(61.6%) did not. Similarly between ages of 31-40 years in 38(43.7%) cases symptoms were present and in 49(56.3%) were absent, in age group 41-50 years 55(45.4%) had symptoms, in cases with 51-60 years age 68(43.6%) had symptoms, 46(44.2%) cases in 60-70 years age group were having symptoms and in 30(46.9%) cases above 70 years of age were suffering from symptoms of GERD. There were 155(51%) male cases with GERD symptoms out of total 303 cases and 105(35.4%) cases from 297 females gave history of GERD symptoms. It was seen that mostly cases with gastroesophageal disease belonged to male population. These symptoms were less in those cases that used to take physical activity after meals and go to bed 4 hours after dinner in 143(74.1%) out of 193 cases. Most common symptom was retrosternal or epigastric pain or burning sensation in 196(75.4%) cases out of those with GERD. Bitter or sour taste was reported in 129(49.6%) and chronic cough due to reflux disease were found in 37(14.2%) cases. In



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177(68.1%) cases sleep disturbance due to GERD was reported. Out of 260 cases having symptoms 80(69%) cases gave history of dinner-bed interval of one hour or less. These cases are more prone to this

problem. This value was 64(45.1%) with dinner-bed interval of 2 hours and in 66(44.3%) cases with symptoms of GERD interval between dinner and sleep was 3 hours.

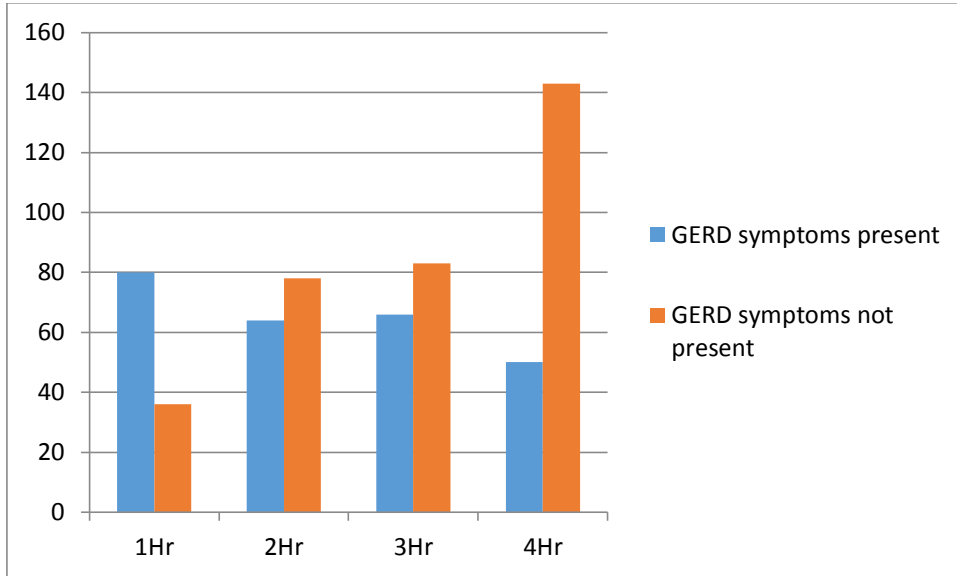


Figure-1 Association of interval between dinner and bed time to GERD symptoms

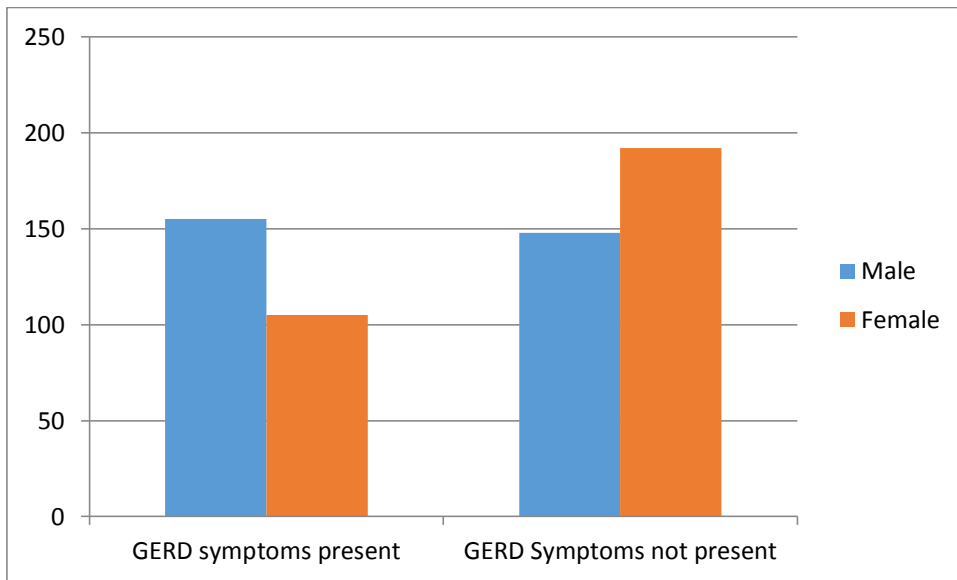


Figure-2 Association of Gender with incidence of GERD

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Table-1**Age distribution among the cases with GERD in study group**

Age of patients (Years)	GERD symptoms present		GERD symptoms not present		Total
	N	%	N	%	
20-30	23	38.3	37	61.6	60
31-40	38	43.7	49	56.3	87
41-50	55	45.4	74	57.4	129
51-60	68	43.6	88	56.4	156
61-70	46	44.2	58	55.8	104
Above 70	30	46.9	34	53.1	64

Table-2**Frequency of various symptoms of gastroesophageal reflux disease among study cases**

GERD Symptoms	Number of Patients	%
Chest burn sensation	196	75.4
Bitter or sour taste	129	49.6
Chronic cough due to GERD	37	14.2
Disturbed sleep due to reflux	177	68.1

DISCUSSION

Gastroesophageal reflux disease is very common among people living unhealthy life style using coffee, tea and smoking, alcoholism.^{9,10} Lack of physical activity is a major factor determining its incidence. Male population has more incidence than female population. It is more prevalent among old people than adults or young. Our daily unhealthy routine life has made us prone to many diseases. Due to lack of proper physical activity gastrointestinal diseases occur. Most common GI disease is gastroesophageal reflux disease.¹¹ This disease is associated with unhealthy life style such as insufficient physical activity; smoking, alcoholism and stress are main risk factors. In this study we determined role of physical activity in reducing incidence of gastroesophageal reflux disease and minimizing symptoms in patients with GERD disease.¹²⁻¹⁵ Patients with GERD has symptoms of retrosternal burning, chest pain, epigastric pain, sour throat, bitter taste, chronic cough due to chronic GERD etc. This is a cross sectional study done in a

teaching hospital. This study was completed in duration of 7 months. Total 600 cases were selected randomly from the attendants or relatives of patients who were living in the study hospital with their patients. . Most common GI disease is gastroesophageal reflux disease. This disease is associated with unhealthy life style such as insufficient physical activity; smoking, alcoholism and stress are main risk factors.¹⁶ In this study we determined role of physical activity in reducing incidence of gastroesophageal reflux disease and minimizing symptoms in patients with GERD disease. A Performa was designed containing all necessary questions like age, gender, GERD symptoms, physical activity, time interval between dinner and going to bed to sleep. Ages of these patients were ranging from 20 to 75 years with mean age of 49.8 years.^{17,18} There were 155(51%) male cases with GERD symptoms out of total 303 cases and 105(35.4%) cases from 297 females gave history of GERD symptoms. It was seen that mostly cases with gastroesophageal disease belonged to male



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climate, physical parameters are associated with incidence of this disease.^{21,22} Many studies have been done on presenting symptoms of GERD and its management but less work has been done on its associated factors and causes.

CONCLUSION

GERD is a very common disease among male population and older people which can be prevented by healthy lifestyle such as proper physical activity daily especially after taking meal and before going to bed. Cessation of smoking, avoiding coffee and tea, walk after taking dinner and interval between dinner and sleep 3-4 hours are associated with decrease in GERD symptoms. Public awareness can play a main role in decreasing its incidence.

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