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Research Article

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A Survey to Assess Quality of Life of Gastro-Oesophageal Reflux Disease (GERD) Patients in Saudi Arabia

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ABSTRACT

Gastrointestinal Esophagus Ailment is a chronic disease that usually results in complications. GERD symptoms include chest pain, acid regurgitation, heartburn, nausea, chronic cough, asthma, and hoarseness. A considerable number of research studies have shown that old age, obesity, drug and substance abuse are significant factors that exacerbate the present condition. The findings from the present research study illustrate that the condition has a major impact on psychological problems. Precisely, the consequences of the condition appeared to vary in different age groups. In particular, this difference was determined with chi-square while taking into consideration the existing variables. Furthermore, the results ascertained that some variations were registered in terms of several factors that differ significantly across gender. Eating pattern between males and females also emerged as a major factor in the research study. The difference is also evident in the age group category as the age group 18-25 shares different sentiments in various aspects.

Key words: *GERD, Quality of life, Assessment.*

INTRODUCTION

Gastroesophageal Reflux Disease (GERD) is an ailment that occurs when stomach acid rises back into the esophagus. This backward flow of stomach contents can irritate the lining of the throat. Most people undergo acid reflux occasionally. A rise in GERD symptoms happens more frequently in people who gain weight [1]. Gastroesophageal is mild acid reflux that ensues at least twice in a week ranging from severe to moderate. It is a sensorimotor disorder linked to impairment of standard ant reflux mechanism, for instance, low esophageal actions and alteration of the normal physiology or sometimes excess gastric acid secretion [1, 2].

GERD disease is more prevalent in Asian and Arab states [2]. Most of the people suffering from the disease can handle its uneasiness mainly through lifestyle changes and over the counter medicines. However, some patients of GERD might require improved medications or even surgery to lessen the symptoms. The most common symptoms and signs of GERD are burning feeling in the chest, and heartburn that regularly happens after eating, and might get worse during the night, trouble while swallowing, vomiting of sour liquid or food, and sensation of

a lump in the throat. In case someone has acid reflux during the night, he or she might also experience severe cough laryngitis and disrupted sleep.

In Saudi Arabia, there is an increase in the indirect and direct costs linked to the management of GERD such as therapy, diagnosis, screening, and follow up strategies where possible complications are anticipated. According to a study carried by Caroline Race, saliva pepsin was noticeable in majority of GERD patients and other volunteers [3]. Besides, GERD might have an effect on the health-related quality of the patient and might also cause emotional co-morbidities, such as anxiety and depression, disrupted sleep, resulting in deterioration of work rate of patients who are employed.

The condition of GERD patients in the Gulf area was not well established since there is a shortage of information on the situation in that region. A study was recently done in Saudi Arabia in which approximately 19% of the patients who participated admitted to having daily heartburn which was bothersome and noticeable [4]. Another research in Riyadh indicated that the occurrence of GERD disease in the area was 45.4%, and the disease was more prevalent in older adults [5]. No difference was noticeable between males and females, but it was also more frequent in people who smoked.

A study carried in the Eastern region of Saudi Arabia indicated that patients of GERD and non-ulcer dyspepsia had a severe health-related quality of life standards, compared with people with no disorders [6]. There was inadequate information on GERD symptoms associated with lifestyle for patients from the Kingdom of Saudi Arabia [1, 6]. Currently, there is an upsurge of indirect and direct expenses related to handling of GERD patients inclusive of therapy, diagnosis screening, and follow- up where there is anticipated complications of the patient.

Based on epidemiological surveys done previously, psychological aspects play a crucial role in lives of patients with GERD and have been indicated to lessen the condition [7]. Though there have been some research on the morbidity of GERD in Saudi Arabia, no studies have been recorded on analyses of the role of mental aspects in GERD patients and their negative effect on the quality of life of a patient. In a recent study, an analysis was done on how both depression and anxiety symptoms were associated to the occurrence of GERD besides their negative implications on the quality of life of patients with GERD [8]. The outcome indicated that the existence of GERD was connected with depression and anxiety, and the quality of life of patients with GERD was decreased drastically.

GERD impacts the patient resulting in depression and anxiety. Recent research revealed that the psychological effects of depression, and anxiety were advanced in people with GERD than others who did not suffer from the disease [9, 10]. Furthermore, mental illnesses were identified to be connected with symptoms of heartburn [11]. In our research, depression and anxiety notches of Saudi Arabia patients were more sophisticated compared to those of healthy controls. The differences in the component ratios of the three groups of people also indicated that the range of depression and anxiety was from moderate to severe in people with GERD symptoms, signifying a significant implications of depression and anxiety in the pathogenesis of GERD condition [12].

Other researches have indicated that patients suffering from depression and anxiety are at higher danger for the increase of reflux and heartburn signs [11, 13]. Janson in his study recently stated that the patients suffering from anxiety with no depression had an approximated 3.2-fold higher danger of GERD disease symptoms, people suffering from the disease and having depression and no anxiety had around 1.7-fold higher risk, and people with the disease and having both depression and anxiety had around 2.8-fold amplified risk related compared to the people with no depression and anxiety [14]. They can offer two possible explanations of the connection between mental impacts and GERD disease. Depression and anxiety evolve subordinate to reflux condition and lead to a raised sensitivity of the GERD signs. Another reasoning is that the sternness of reflux condition is bigger in patients who also have psychiatric disease as well [15].

Objective of The Study

The aim of this study is to assess the quality of Life of Gastro-Oesophageal Reflux Disease (GERD) Patients living in Saudi Arabia. We perceived that psychological aspects might include some of the vital impelling factors and that they may weaken the quality of life of GERD patients. Though, it is still unidentified how psychological aspects affect GERD and the effect they have on the living standards of a patients with GERD in Saudi Arabia. In exploration on the connection between mental issues and the pathophysiology of GERD disease, this study assessed the mental status of various patients suffering from GERD and its impact on the quality of life and it affected their lifestyle.

MATERIAL AND METHOD

A cross-sectional study was carried out using questionnaires on the patients diagnosed with GERD attending family medicine clinic in Saudi Arabia. Random sampling method and multistage stratification technique were applied to stratify the patients according to the extent of heartburn and acid reflux. A questionnaire consisting of 16 items was administered to collect relevant data after they had fully completed all parts and offered informed consent which was included throughout the study.

The study involved 3 regions (Middle, Eastern and Western Regions), 7 cities (Riyadh, Dammam, Alahsa, Alqatif, Makkah, Jeddah and taif) and 27 hospital of Saudi Arabia. A total of 85 patients involved in the study. The participants were patients diagnosed with GERD and attended family medicine clinic.

The questionnaires were inclusive of demographic traits such as the number of patients who had sleeping problems and the level of their difficulty ranging from moderate to severe. The questionnaire was also inclusive of multiple lifestyle aspects of how the impacts of the disease affected the patients' workability and those that were perceived to have a connection with gastroesophageal reflux disease. The questionnaire was meant to diagnose GERD; it was a questionnaire that was created on a patient-centered self-assessment to help us in making the diagnoses of the disease and evaluating the quality of life of the patients, this questionnaire has an approximated sensitivity of up to 65% and also a specificity of 71%.

All the constituents of the questionnaire have been explained to the participants, and their consent was asked. The researcher dispersed the questionnaire to randomly chosen patients attending the medical clinic. All the inquiries about the questionnaire from various participants were answered immediately by the researcher.

RESULTS:

Table 1. The demographic data

Gender	Frequency	Percentage
Female	30	35%
Male	55	65%
Grand Total	85	100%

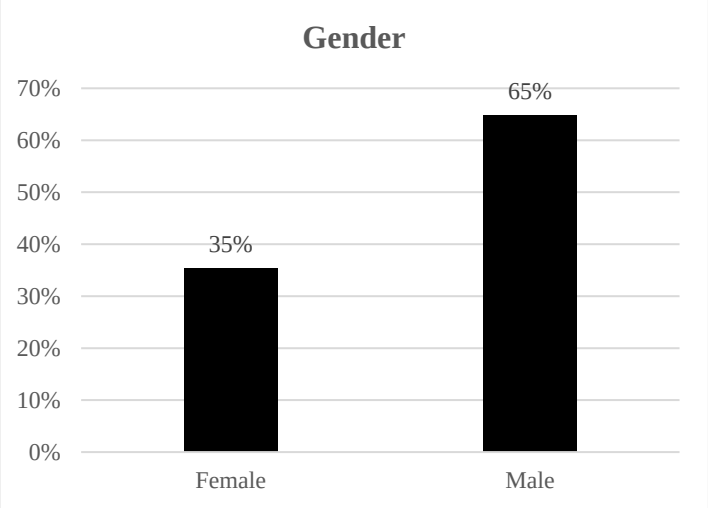

Figure 1: The demographic data

The results of the findings indicate that 65% of the respondents were male, and 35% of the respondents were female.

Table 2. The frequency and percentage of the age groups

Age Category	Frequency	Percentage
18-25	9	11%
26-35	20	24%

36-45	18	21%
46-60	24	28%
61 and Older	14	16%
Grand Total	85	1

The findings of the study show that the age group 46-60 had the highest number of the respondents with a percentage of 28%. The age group 18-25 had the least amount of respondents with a representative of 11%. The results are visually represented in the graph below.

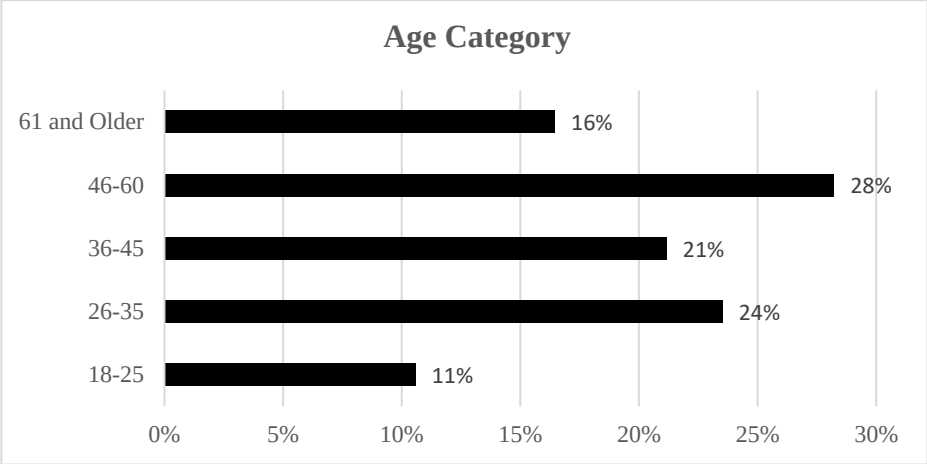

Figure 2: The frequency and percentage of the age groups

Table 3: The proportion of males and females per the age category

Age Category	Female		Male	
	Count	Percentage	Count	Percentage
18-25	2	7%	7	13%
26-35	10	33%	10	18%
36-45	8	27%	10	18%
46-60	4	13%	20	36%
61 and Older	6	20%	8	15%
Grand Total	30	100%	55	100%

The table above shows the proportion of males and females per the age category. A higher number of female respondents are from the age group 26-35, with a percentage of 33%; while, the least has a representative of 7% from the age group 18-25. From the Male data, 36% of the respondents falls in the age group 46-60; while, the least number of the respondents for the male respondents falls in the age group 18-25 with a proportion of 13%.

Table 4. Analysis of Ordinal Variables

I was afraid to eat because of acid reflux and heartburn symptoms	**Frequency**	**Percentage**
Neutral	17	20%
Somewhat agree	23	27%
Somewhat disagree	22	26%
Strongly agree	8	9%
Strongly disagree	15	18%
Grand Total	85	100%
I was unable to sleep well at night because of acid reflux and heartburn symptoms.	**Frequency**	**Percentage**
Neutral	11	13%

Somewhat agree	25	29%
Somewhat disagree	18	21%
Strongly agree	15	18%
Strongly disagree	16	19%
Grand Total	85	1
I found it inconvenient to have to take medications regularly because of acid reflux and heartburn symptoms.	Frequency	Percentage
Neutral	16	19%
Somewhat agree	22	26%
Somewhat disagree	16	19%
Strongly agree	16	19%
Strongly disagree	15	18%
Grand Total	85	1
I felt discomfort when I exercised because of acid reflux and heartburn symptoms.	Frequency	Percentage
Neutral	18	21%
Somewhat agree	17	20%
Somewhat disagree	25	29%
Strongly agree	9	11%
Strongly disagree	16	19%
Grand Total	85	1

The data shows that 27% of the respondents somewhat agree that they are afraid to eat because of acid reflux and heartburn symptoms. Whereas 9% of the respondents strongly agree that they are afraid to eat because of acid reflux and heartburn symptoms, 26% somewhat disagree, and 18% strongly disagree with the same. Moreover, 29% of the respondents somewhat agree that they were unable to sleep well at night because of acid reflux and heartburn symptoms; while, 21% somewhat disagrees with the issue. 18% of the respondents strongly agree; while, 19% strongly disagree that they were unable to sleep well at night because of acid reflux and heartburn symptoms.

Based on the findings, 26% somewhat agree that they find it inconvenient to have to take medications regularly because of acid reflux and heartburn symptoms; while, 19% slightly disagrees.19% of the respondents strongly agree while 18% strongly disagree that they find it inconvenient to have to take medications regularly because of acid reflux and heartburn symptoms. 29% of the respondents somewhat disagree that they felt discomfort when exercised because of acid reflux and heartburn symptoms while 20% somewhat agree on the matter. 11% strongly agree while 19% strongly disagree that they felt discomfort when exercised because of acid reflux and heartburn symptoms

Table 5. The summary percentage of other ordinal Variables

Variable	**Rating**					
	Neutral	**Somewhat agree**	**Somewhat disagree**	**Strongly agree**	**Strongly disagree**	**Grand Total**
I needed to be careful of my sleeping posture because of acid reflux and heartburn symptoms.	14%	18%	24%	26%	19%	100%
I was afraid to have my favorite food or drinks because of acid reflux and heartburn symptoms.	21%	21%	22%	21%	14%	100%
I needed to be careful of my sleeping posture because of acid reflux and heartburn symptoms.	24%	19%	18%	22%	18%	100%

I was unable to concentrate on my work because of acid reflux and heartburn symptoms.	31%	16%	16%	24%	13%	100%
Acid reflux and heartburn symptoms disturbed my after-meal activities or rest	16%	24%	21%	18%	21%	100%
I was frustrated by heaving to take frequent medications for acid reflux and heartburn symptoms.	19%	15%	25%	16%	25%	100%
I worried about the acid reflux and heartburn symptoms turning into a severe disease.	19%	18%	19%	15%	29%	100%
Acid reflux and heartburn symptoms made me anxious and distressed.	25%	19%	24%	20%	13%	1

The table above provides a summary of the level of agreement for the various variable under study.

Table 6. Testing the relationships between variables with regard to the first question

Crosstab						
	Acid reflux and heartburn symptoms made me anxious and distressed.					Total
	Somewhat agree	Strongly agree	Neutral	Somewhat disagree	Strongly disagree	
Count	11	13	14	10	7	55
% within Gender	20.0%	23.6%	25.5%	18.2%	12.7%	100.0%
Count	5	4	7	10	4	30
% within Gender	16.7%	13.3%	23.3%	33.3%	13.3%	100.0%
Count	16	17	21	20	11	85
% within Gender	18.8%	20.0%	24.7%	23.5%	12.9%	100.0%

Table 7. Chi-Square Tests for the results of table 6

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.080[a]	4	.545
Likelihood Ratio	3.067	4	.547
Linear-by-Linear Association	1.254	1	.263
N of Valid Cases	85		
a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.88.			

The table above compares the variation of opinion on acid reflux and heartburn symptoms across gender. The results indicate that 23.6% of the male respondents strongly agree that acid reflux and heartburn symptoms made them anxious and distressed. For the female group, 16.7% somewhat agree that acid reflux and heartburn symptoms made me anxious and distressed, while 33.3 % of the female respondents somewhat disagree (p=0.545).

Table 8. Testing the relationships between variables with regard to the second question

Crosstab						
	I was afraid to eat because of acid reflux and heartburn symptoms					Total
	Somewhat agree	Strongly agree	Neutral	Somewhat disagree	Strongly disagree	
Count	16	5	9	14	11	55
% within Gender	29.1%	9.1%	16.4%	25.5%	20.0%	100.0%
Count	7	3	8	8	4	30
% within Gender	23.3%	10.0%	26.7%	26.7%	13.3%	100.0%

Count	23	8	17	22	15	85
% within Gender	27.1%	9.4%	20.0%	25.9%	17.6%	100.0%

Table 9. Chi-Square Tests for the results of table 8

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.050[a]	16	.177
Likelihood Ratio	24.064	16	.088
Linear-by-Linear Association	.554	1	.457
N of Valid Cases	85		
a. 21 cells (84.0%) have expected count less than 5. The minimum expected count is .85.			

The data provides variation in opinion across gender on the reason for fear to eat because of acid reflux and heartburn symptoms. It is noted that 29.1% of the male respondents strongly agree that they were afraid to eat because of acid reflux and heartburn symptoms, while, 20% strongly disagree on the same issue. 10% of the female respondents strongly agree that they were afraid to eat because of acid reflux and heartburn symptoms; while, 13.3% strongly disagree. (p=0.177).

Table 10. Testing the relationships between variables with regard to the third question

Crosstab						
	Acid reflux and heartburn symptoms made me anxious and distressed.					Total
	Somewhat agree	Strongly agree	Neutral	Somewhat disagree	Strongly disagree	
Count	1	2	2	1	3	9
% within Age	11.1%	22.2%	22.2%	11.1%	33.3%	100.0%
Count	5	4	4	4	3	20
% within Age	25.0%	20.0%	20.0%	20.0%	15.0%	100.0%
Count	3	4	5	4	2	18
% within Age	16.7%	22.2%	27.8%	22.2%	11.1%	100.0%
Count	5	5	5	7	2	24
% within Age	20.8%	20.8%	20.8%	29.2%	8.3%	100.0%
Count	2	2	5	4	1	14
% within Age	14.3%	14.3%	35.7%	28.6%	7.1%	100.0%
Count	16	17	21	20	11	85
% within Age	18.8%	20.0%	24.7%	23.5%	12.9%	100.0%

Table 11. Chi-Square Tests for the results of table 10

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.291[a]	16	.967
Likelihood Ratio	6.634	16	.980
Linear-by-Linear Association	.102	1	.749
N of Valid Cases	85		
a. 23 cells (92.0%) have expected count less than 5. The minimum expected count is 1.16.			

The table above indicates the distributions of opinions across age groups. 22.2% of the respondents from the age group 18-25 strongly agree to acid reflux, and heartburn symptoms made them anxious and distressed; while, 33.3% strongly disagree. 20% of the respondents from the age group 26-35 strongly agree that acid reflux and

heartburn symptoms made them anxious and distressed; while, 15% strongly disagree. Age group 36-45 had 22.2% of the respondents strongly agreeing that acid reflux and heartburn symptoms made them anxious and distressed; while, 11.1% strongly disagree with the same statement. 20.8% of the respondents from the age group 46-60 strongly agree that acid reflux and heartburn symptoms made them anxious and distressed; while, 8.3% strongly disagree.14.3 % of the respondents from age group 61 and over strongly agree that Acid reflux and heartburn symptoms made them anxious and distressed; while, 7.1% strongly disagree (p=0.967).

Table 12. Testing the relationships between variables with regard to the fourth question

Crosstab						
	I was frustrated by heaving to take frequent medications for acid reflux and heartburn symptoms.					Total
	Somewhat agree	Strongly agree	Neutral	Somewhat disagree	Strongly disagree	
Count	2	1	2	1	3	9
% within Age	22.2%	11.1%	22.2%	11.1%	33.3%	100.0%
Count	5	4	3	4	4	20
% within Age	25.0%	20.0%	15.0%	20.0%	20.0%	100.0%
Count	0	6	3	6	3	18
% within Age	0.0%	33.3%	16.7%	33.3%	16.7%	100.0%
Count	5	2	6	6	5	24
% within Age	20.8%	8.3%	25.0%	25.0%	20.8%	100.0%
Count	1	1	2	4	6	14
% within Age	7.1%	7.1%	14.3%	28.6%	42.9%	100.0%
Count	13	14	16	21	21	85
% within Age	15.3%	16.5%	18.8%	24.7%	24.7%	100.0%

Table 13. Chi-Square Tests for the results of table 12

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.786[a]	16	.468
Likelihood Ratio	17.940	16	.327
Linear-by-Linear Association	2.235	1	.135
N of Valid Cases	85		
a. 23 cells (92.0%) have expected count less than 5. The minimum expected count is 1.38.			

The findings of the study show the 11.1% of the respondents from the age group 18-25 strongly agree that they frustrated by having to take frequent medications for acid reflux and heartburn symptoms; while, 33.3% strongly disagree. 20% of the respondents from the age group 26-35 strongly that they were frustrated by having to take frequent medications for acid reflux and heartburn symptoms; while, 20% strongly disagree. Additionally, 33.3% of the respondents from the age group 36-45 somewhat agree that they were frustrated by having to take frequent medications for acid reflux and heartburn symptoms; while, 20.8% of the respondents from age group 46-60 strongly agree that they were frustrated by having to take frequent medications for acid reflux and heartburn symptoms. 7.1% of the respondents at the age range of 61 and older strongly agree that they were frustrated by having to take frequent medication for acid reflux and heartburn symptoms; while, 42.9% strongly disagree (p=0.468).

DISCUSSION

Gastrointestinal Esophagus Ailment is a chronic disease that usually results in complications. GERD symptoms include chest pain, acid regurgitation, heartburn, nausea, chronic cough, asthma, and hoarseness. Other research

done in this area provides some risk factors associated with this condition, which include age, obesity, and unhealthy lifestyle, which entails alcohol consumption and cigarette smoking. The most common symptoms for GERD are heartburn and regurgitation. Heart ban is associated with burning effect, or a discomfort occurring towards the mouth, while regurgitation typically refers to a bitter-tasting of gastric contents from the stomach to the mouth. The two conditions are not interdependent as they can affect a patient without the occurrence of the other.

The analysis of the data was categorized in demographic data analysis and variable analysis. Demographic information entailed the analysis of the frequency of gender and age category. The study highlighted the distribution of the respondents across gender and age groups. The results of the data provided an insight that a higher proportion of the respondents comprised of males. The data were further categorized into the age group, where a few respondents from the age group 18-25 were recorded. The highest number of respondents were from the age group 26-35. The analysis comparing the age category and gender showed that most of the female respondents were from the age group 26-35; while, the least were from the age group 18-25. Distribution of the male respondents varies from that of the female respondents in terms of the highest represented age group. Most of the male respondents were from the age group 46-60. Notably, the least represented category in male respondents is the age group 18-25. The fewer number of young people in this study could be associated with the nature of the disease as it is more common with older adults. While checking for the distribution of other variables, the results show that there is a significant effect of lifestyle in terms of exercise and diet. A higher proportion of the respondents agreed that they felt discomfort when exercised because of acid reflux and heartburn symptoms. Patients with this condition could be affected negatively in terms of exercise, and this could impair their daily activities.

The results of the findings indicate that the condition could impact psychological problems, which can have a significant effect on daily activities. Consequently, the outcome could be sleeping interruptions, eating problems, drinking problems, and work interference. The effect of Gastrointestinal Esophagus Ailment also varies between different groups. The use of the chi-square test was applied in this study. The purpose of these techniques is to establish whether there exists a significant difference between groups. The study tried to establish a distinction between gender and age groups across the variables in the research. The results of the findings proved some variations were registered in terms of several factors that differ significantly across genders. Females, for instance, females were more frustrated in taking frequent medications for acid reflux and heartburn symptoms as compared to males. Such result shows that women were more impacted physiologically compared to males. The difference is also noticed in the manner they eat between males and females. Males were more afraid to eat because of acid reflux and heartburn symptoms as compared to females. The difference is also evident in the age group category as the age group 18-25 shares different sentiments in various aspects. Age group 26-35 feel they get frustrated in having to take frequent medications for acid reflux and heartburn symptoms as compared to age group 18-25.

Management of the condition can be enhanced through a change in diet and lifestyle medication. These measures are critical in controlling severe and complicated GERD. Diet modification could be eating small meals, drinking fluids between and not during meals, quitting smoking, checking on how you sleep, exercising daily, avoiding acidic food, and avoiding high-fat diet.

CONCLUSION

Gastrointestinal Esophagus Ailment is a chronic disease that usually results in complications. GERD symptoms include chest pain, acid regurgitation, heartburn, nausea, chronic cough, asthma, and hoarseness. A considerable number of research studies have shown that old age, obesity, drug and substance abuse are significant factors that exacerbate the present condition.

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