Original Article

Factors influencing the quality of life of GERD patients in the Aseer Region, Saudi Arabia

Mohammed A. Alzahrani, Faisal S. Alamri, Hatem M. Alshahrani, Ali M. Alshahrani, Ali M. Mohammed, Rayan A. Saif, Saeed A. Alqarni, Naif A. Godhaif, Abdulrahman Abdullah M Al Mudawi

Department of Internal Medicine, King Khalid University, Abha, Saudi Arabia

Abstract

Gastroesophageal reflux disease (GERD) is a common upper gastrointestinal disorder characterized by troublesome symptoms, including heartburn and acid regurgitation. GERD is associated with complications such as peptic stricture, Barrett's esophagus, and esophageal adenocarcinoma, and it negatively affects quality of life (QoL). **Aims:** To assess the factors influencing the QoL of GERD patients in the Aseer region of Saudi Arabia. **Settings and Design:** This descriptive cross-sectional study used self-administered questionnaires in a study population of patients aged ≥18 years from Aseer, Saudi Arabia, between January 15, 2023–February 15, 2023. **Materials and Methods:** A previously validated GERD health-related QoL (GERD-HRQoL) questionnaire was used to assess the patients' sociodemographic data, GERD, and GERD-HRQoL. **Statistical Analysis Used:** Descriptive analysis included describing the frequency distribution and percentage for study variables, including demographic data, GERD-related QoL symptoms, and QoL, which were graphed. Cross-tabulation presented the distribution of GERD-HRQoL scores by their personal data and other factors using the Pearson Chi-square and exact probability tests. **Results:** Overall, 502 participants previously diagnosed with GERD completed the questionnaire. Participants' were aged 18–65 years (mean age of 31.5 ± 14.6 years), and 384 (76.5%) were male. The most frequent symptom affecting QoL was heartburn (85.9%), followed by postprandial heartburn (84.3%), heartburn while lying down (82.7%), bloating or gassy feelings (79.9%), and heartburn while standing up (77.3%). **Conclusions:** Our study showed that patients with GERD had a poor QoL due to GERD-related symptoms, mainly heartburn. Younger age, male sex, and lower educational status were associated with lower GERD-HRQoL scores.

Keywords: Gastroesophageal reflux disease, heartburn, quality of life, regurgitation, Saudi Arabia

Introduction

Gastroesophageal reflux disease (GERD) is a chronic disorder characterized by the reflux of stomach contents and is associated with troublesome symptoms and complications.[1] Patients are experienced esophageal or non-esophageal symptoms. The clinical features of GERD include heartburn, regurgitation, and non-cardiac chest pain.[2] These symptoms negatively affect patients' activities of daily life, including sleep, oral intake, and work, leading to a poor quality of life (QoL). However, QoL is recognized as the medical outcome measures in the management of GERD.[3] GERD symptoms are more frequent in patients with asthma, with an estimated prevalence of 45–71%.[4-6]

Recent epidemiological studies have revealed that the global prevalence of GERD is increasing.[7,8] In fact, the estimated worldwide prevalence of GERD is 15–25%.[9] However, in Saudi Arabia, the estimated prevalence of GERD ranges from 15–45.4%.[10-12]

Address for correspondence: Dr. Mohammed A. Alzahrani, King Khalid University, Abha -61421, Saudi Arabia.
E-mail: dr_mohdaz@hotmail.com

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GERD is a chronic disease that can lead to peptic stricture, Barrett's esophagus, and/or esophageal adenocarcinoma. It is also associated with an impaired QoL, which affects all domains of QoL. Obesity and lifestyle choices such as smoking and physical inactivity are risk factors for the development of GERD; however, genetic variables can also function as adjuvants.[13,14] In this study, we aimed to identify the crucial factors influencing the QoL of GERD patients in the Aseer region of Saudi Arabia.

Materials and Methods

This descriptive cross-sectional study was conducted based on the use of self-administered questionnaires. Our study population included patients from Saudi Arabia who were Arabic speaking, aged ≥18 years, previously diagnosed with GERD, and who agreed to participate in the study during the period from January 15, 2023 to February 15, 2023. A non-probability consecutive sampling technique was used, and we utilized a GERD health-related QoL (GERD-HRQoL) questionnaire to assess GERD's impact on the patients' QoL. This questionnaire measures the severity of GERD symptoms, mainly typical symptoms. It is a self-explanatory 10-item questionnaire that assesses the frequency of heartburn, regurgitation, difficulty in swallowing, bloating, and the burden of GERD medications in the preceding two weeks. Each item is scored from zero to five, with a maximum rating of 50 and a higher rating indicating a poor QoL. Furthermore, SF-36 was used to assess the general health-related QoL.[15,16] The investigators translated the questionnaire into the Arabic language, tested it in a pilot study, and revised it to clarify any ambiguity. Additionally, the questionnaire validity was assessed by a panel of three experts, and the reliability coefficient was calculated to be 0.71. Thus, the researchers developed the study questionnaire after an intensive literature review and expert consultation.

Data analysis

Data were collected, reviewed, and fed into the Statistical Package for Social Sciences version 21 (IBM Corp.; Armonk, NY, USA). All statistical methods used were two-tailed, with an alpha level of 0.05 and a *P* value for significance set at ≤0.05. GERD-HRQoL was assessed by summing all item discrete scores, and patients with a mean score of + 1 SD were considered to have a good GERD-related QoL. Regarding the patients' QoL, the SF-36 was scored on a 0–100 scale measure for different domains. On this scale, an overall score of >50% was considered poor, while a score between 50–75% was considered intermediate and a score of ≥75% was considered good. Descriptive analysis was performed by describing the frequency distribution and percentage for study variables, including participants' demographic data, GERD-related QoL symptoms, and QoL, which were graphed. Furthermore, cross-tabulation was used to show the distribution of patients' GERD-HRQoL scores by their personal data and other factors, using the Pearson Chi-square test for significance and an exact probability test if there were small frequency distributions.

Results

A total of 502 participants diagnosed with GERD who fulfilled the inclusion criteria completed the study questionnaire. The age of the participants ranged from 18–65 years, with mean age of 31.5 ± 14.6 years, and a total of 384 (76.5%) patients were male. Additionally, approximately 194 (38.6%) of the study participants were university graduates with a postgraduate degree, and 240 (47.8%) had a secondary level of education. The vast majority of participants (498, 99.2%) were Saudi, and GERD was diagnosed by an internal medicine physician in 351 (69.9%) patients, whereas 121 (24.1%) patients were diagnosed by a primary healthcare physician [Table 1].

Based on the GERD-HRQoL instrument, the most frequent symptom affecting QoL was heartburn (85.9%), followed by heartburn after meals (84.3%), heartburn while lying down (82.7%), bloating or gassy feeling (79.9%), and heartburn while standing up (77.3%). In contrast, the least reported symptoms included a change in diet (61%) and sleep disturbances due to heartburn (44%).

Figure 1 shows the overall GERD-related QoL among the study participants. Approximately 418 (83.3%) patients had a poor QoL due to GERD, while 84 (16.7%) had GERD-related good QoL. Moreover, the overall mean score out of 50 was 16.6 ± 8.1.

The health-related general QoL among study participants with GERD is presented in Tables 2 and 3. The highest QoL score was for physical functioning (71.6%), followed by pain (66.9%), and social functioning (65.5%), while the lowest QoL score was for role limitations due to physical health (45.5%). Additionally, 118 (23.5%) had general good QoL and 225 (44.8%) had general poor QoL.

Table 4 presents the factors associated with GERD-HRQoL among study participants. Approximately one-third (32.4%) of patients aged ≥56 years and 14% of patients aged 18–25 years

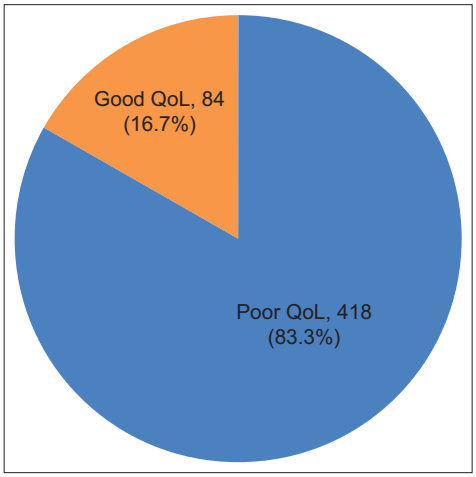

Figure 1: Overall GERD-related quality of life among study participants, Saudi Arabia. GERD = Gastroesophageal reflux disease, QoL = Quality of life

had good GERD-HRQoL (P = 0.001). Moreover, 22.9% of the female participants and 14.8% of the male participants had GERD-HRQoL (P = 0.041). Good GERD-HRQoL was detected among 26.3% of highly educated patients and 6.9% of those with a secondary level of education (P = 0.001). Additionally, a total of 49.2% of participants with general good QoL had good GERD-HRQoL (P = 0.001).

Discussion

GERD is a common gastrointestinal disorder that is one of the most commonly diagnosed GI diseases during in-office visits.[17] Many studies have estimated the prevalence of GERD to range from 20–40% in adults in the Western population, of which 5–10% have daily heartburn or regurgitation.[18] QoL is a preferred measure used mainly in gastroenterology to evaluate the impact of GERD and assess the effectiveness of the given treatments. Therefore, it is vital to assess the impact of these disorders on patients' QoL.[19]

The current study aimed to identify significant factors influencing the QoL of patients with GERD in the Aseer region of southern Saudi Arabia. Our results showed that the vast majority of participants (more than three-fourths) had poor GERD-HRQoL. Additionally, the most prevalent symptom affecting patients' QoL was heartburn (after meals, standing up, and lying down). Other frequently disturbing symptoms included feelings of bloating or gas. In contrast, dietary habits and sleep were the least affected by GERD. Similar findings were reported by Meyiz H *et al.*,[20] in which 62% of the patients had moderate-to-severe QoL-related impairment. Moreover, in Turkey, Mungan reported that QoL scores among patients with GERD were significantly lower than those in the general population.[21] However, Alshammari SA *et al.*[22] found that nearly half of GERD patients (48.5%) had a poor QoL, while the rest had a good QoL, which was better than the estimated prevalence of the current study. Furthermore, another study in Saudi Arabia showed a negative effect of GERD on patients' activities of daily living.[23]

Our study results also revealed that a poor QoL was associated with a younger age because young participants had higher levels of activity; therefore, any frustrating clinical presentation due to GERD may alter their daily life activities. In addition, participants who were male or had a lower education experienced a lower level of QoL due to GERD. In contrast, Alshammari *et al.*[22] found that poor QoL was more common among older patients. Additionally, contrary to our study findings regarding sex, an Irish study reported that female QoL was more affected by GERD than male QoL.[24] Furthermore, different studies have indicated other factors which showed significant effects on GERD patients' QoL such as smoking,[25,26] BMI,[27-29] and income.[30]

In conclusion, the current study showed that patients with GERD had a poor QoL due to GERD-related symptoms,

Table 1: Personal data of the study patients with GERD, Saudi Arabia

Personal data	*n*	%
Age in years		
18-25	86	17.1%
26-35	201	40.0%
36-45	107	21.3%
46-55	74	14.7%
56+	34	6.8%
Sex		
Male	384	76.5%
Female	118	23.5%
Educational level		
Below secondary	68	13.5%
Secondary	240	47.8%
University/above	194	38.6%
Nationality		
Saudi	498	99.2%
Non-Saudi	4	0.8%
Who diagnosed GERD		
Internal medicine physician	351	69.9%
Primary health care physician	121	24.1%
Another physician	30	6.0%

GERD=Gastroesophageal reflux disease

Table 2: GERD health-related quality of life symptoms frequency among the study participants

GERD-HRQOL	No symptoms		Symptoms noticeable, but not bothersome		Symptoms noticeable and bothersome, but not every day		Symptoms bothersome every day		Symptoms affect daily activities		Symptoms are incapacitating, unable to do daily activities	
	No	%	No	%	No	%	No	%	No	%	No	%
How bad is your heartburn?	71	14.1%	82	16.3%	235	46.8%	71	14.1%	29	5.8%	14	2.8%
Heartburn when lying down?	87	17.3%	92	18.3%	217	43.2%	57	11.4%	36	7.2%	13	2.6%
Heartburn when standing up?	114	22.7%	84	16.7%	213	42.4%	48	9.6%	26	5.2%	17	3.4%
Heartburn after meals?	79	15.7%	90	17.9%	237	47.2%	53	10.6%	32	6.4%	11	2.2%
Does heartburn change your diet?	196	39.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	306	61.0%
Does heartburn wake you from sleep?	281	56.0%	0	0.0%	187	37.3%	34	6.8%	0	0.0%	0	0.0%
Do you have difficulty swallowing?	145	28.9%	180	35.9%	84	16.7%	66	13.1%	14	2.8%	13	2.6%
Do you have pain with swallowing?	144	28.7%	188	37.5%	86	17.1%	59	11.8%	14	2.8%	11	2.2%
Do you have bloating or gassy feelings?	101	20.1%	192	38.2%	108	21.5%	64	12.7%	25	5.0%	12	2.4%
Medications affect your daily life	142	28.3%	203	40.4%	77	15.3%	43	8.6%	24	4.8%	13	2.6%

GERD-HRQOL=Gastroesophageal reflux disease health-related quality of life

Table 3: Health-related general quality of life among the study participants with GERD, Saudi Arabia

SF-36 domains	Mean	SD
Physical functioning	71.6	20.6
Role limitations due to physical health	45.5	42.8
Role limitations due to emotional problems	50.4	44.9
Energy/fatigue	51.8	18.5
Emotional well being	58.9	20.3
Social functioning	65.5	24.6
Pain	66.9	24.0
General health	52.4	16.8
Overall HRQoL score	59.7	17.0
Overall HRQoL		
Poor	225	44.8%
Intermediate	159	31.7%
Good	118	23.5%

HRQoL=Health-related quality of life, SD=Standard deviation

Table 4: Factors associated with GERD-HRQoL among study participants, Saudi Arabia

Factors	GERD-HRQoL				*P*
	Poor QoL		Good QoL		
	No	%	No	%	
Age in years					0.001*
18-25	74	86.0%	12	14.0%	
26-35	189	94.0%	12	6.0%	
36-45	80	74.8%	27	25.2%	
46-55	52	70.3%	22	29.7%	
56+	23	67.6%	11	32.4%	
Sex					0.041*
Male	327	85.2%	57	14.8%	
Female	91	77.1%	27	22.9%	
Educational level					0.001*
Below secondary	58	85.3%	10	14.7%	
Secondary	217	90.4%	23	9.6%	
University/above	143	73.7%	51	26.3%	
Nationality					0.657$
Saudi	415	83.3%	83	16.7%	
Non-Saudi	3	75.0%	1	25.0%	
Overall QoL					0.001*
Poor	225	100.0%	0	0.0%	
Intermediate	133	83.6%	26	16.4%	
Good	60	50.8%	58	49.2%	

P-values were obtained using the Pearson χ^2 test. $Exact probability test. *P<0.05 (significant)

mainly heartburn. Moreover, factors associated with a lower QoL due to GERD included a young age, male sex, and poor education. Recently, it has been recommended that the consideration of QoL is vital in GERD patients, making the investigation of its impact on daily life and the efficiency of treatments introduced necessary. It has also been suggested that a health strategy plan is required to address GERD-associated symptoms to improve the QoL of GERD patients.

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Conflicts of interest

There are no conflicts of interest.

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