STUDY OF TREATMENT OPTIONS AND QUALITY OF LIFE IN GASTROESOPHAGEAL REFLUX DISEASE PATIENTS

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Abstract

Gastroesophageal reflux disease (GERD), a prevalent gastrointestinal disorder, is marked by the retrograde movement of gastric contents into the esophagus due to lower esophageal sphincter dysfunction. This prospective observational study, conducted over six months at St. Philomena's Hospital, Bengaluru, aimed to evaluate the quality of life (QoL) in GERD patients and document treatment approaches. Using validated tools such as the GERD-Health-Related Quality of Life questionnaire (GERD-HRQoL) and the Psychological General Well-Being Index (PGWBI), the study examined 52 patients aged 18 and above.

The findings revealed GERD significantly impairs physical, emotional, and social functioning. Heartburn, regurgitation, and psychological distress, including anxiety and depression, were prominent among participants. Comorbid conditions such as diabetes, hypertension, and hypothyroidism compounded the disease burden. Despite the efficacy of proton pump inhibitors (PPIs) as the primary treatment, many patients expressed dissatisfaction with their overall health, highlighting the need for integrated management strategies.

Lifestyle modifications, though essential, were inconsistently adopted, indicating gaps in patient adherence and education. Counseling sessions and educational materials demonstrated potential in improving patient understanding and behavior. The study emphasized the bidirectional relationship between psychological health and GERD symptoms, underscoring the necessity of holistic care.

In conclusion, GERD's complex nature demands a multidisciplinary approach combining pharmacological treatments, lifestyle adjustments, and psychological support. Future research should focus on personalized therapies and comprehensive patient education to enhance treatment outcomes and QoL.

Keyword: QUALITY OF LIFE, GASTROESOPHAGEAL REFLUX DISEASE, PATIENTS

Introduction

Gastroesophageal reflux disease (GERD), commonly known as acid reflux is a prevalent gastrointestinal disorder characterized by the retrograde movement of gastric contents into the esophagus. This condition is caused by improper functioning of the lower esophageal sphincter (LES), which fails to close adequately, allowing acid to flow back into the esophagus. GERD can lead to symptoms such as heartburn, regurgitation, chest pain, and a sour taste in the mouth. It is also associated with complications like esophagitis, Barrett's esophagus, and esophageal adenocarcinoma. The prevalence of GERD varies geographically, being higher in Western countries and typically affecting individuals over 40 years of age. GERD significantly impacts patients' quality of life (QoL) by interfering with physical activities, social functioning, sleep, and work productivity. Evaluating QoL in GERD patients is essential for understanding the burden of the disease and developing effective management strategies.This study aimed to assess the QoL in GERD patients and document the various therapies used for its treatment. Using validated tools like the GERD-Health-Related Quality of Life questionnaire (GERD-HRQoL) and the Psychological General Well-Being Index (PGWBI), this research provides insights into the physical and psychological effects of GERD and highlights the importance of patient-centered care.

Gastroesophageal reflux disease (GERD), also referred to as acid reflux, is a chronic and widespread gastrointestinal disorder characterized by the backflow of gastric contents into the esophagus. This condition arises due to the dysfunction of the lower esophageal sphincter (LES), which fails to close properly after food enters the stomach. The retrograde flow of acidic gastric contents into the esophagus leads to symptoms such as heartburn, regurgitation, chest pain, hypersalivation, and vomiting.

Kimio Isshi, et al. (2021) conducted an observational study to evaluate the effects of coexisting upper gastrointestinal symptoms on QoL in 113 patients with GERD symptoms. Modified frequency scale for the symptoms of GERD(MFSSG), gastroesophageal reflux symptoms and dyspepsia therapeutic efficacy and satisfaction test (GERD-TEST) questionnaires were used. It was concluded that the incidence of each symptom category in patients with GERD was high: typical GERD (100%), atypical GERD (67.3%), typical functional dyspepsia (71.1%), and atypical FD (75.2%). Therefore, coexisting FD symptoms, particularly atypical FD symptoms, had a large influence on the impairments of daily life and decreases in QoL.

The pathophysiology of GERD is complex and multifactorial. It involves several mechanisms, including transient relaxation of the LES, impaired esophageal clearance, delayed gastric emptying, and anatomical abnormalities such as hiatal hernia. Lifestyle factors, including obesity, alcohol consumption, and smoking, also contribute significantly to the onset and exacerbation of GERD symptoms. Moreover, specific dietary habits, such as consuming fatty foods, chocolate, and caffeine, are known triggers for GERD.

Epidemiology: The prevalence of GERD varies significantly across geographic regions, with the highest rates reported in Western countries. Studies indicate that approximately 15% of individuals experience heartburn or regurgitation at least once a week, and 7% report daily symptoms. In India, the prevalence ranges from 7.6% to 30%, depending on the population and study design. GERD is particularly common in adults over 40 years of age and in pregnant women, where hormonal and physiological changes increase susceptibility to reflux. Saleh Mohammed, et al. (2019) carried out study on depression and anxiety in patients with Gastroesophageal Reflux Disorder with or without chest pain. In this cross-sectional study, a total of 258 consecutive patients with a diagnosis of GERD were included, among them 112 had concerns about chest pain. The depressive and anxious symptoms were assessed using a hospital anxiety and depression scale. The study concluded that a total of 107(41.4%) participants had depression, 89(27.13%) had both depression and anxiety. Therefore, depression and anxiety were significantly higher in patients with GERD and chest pain.

Clinical Presentation: GERD manifests through typical symptoms like heartburn, belching, and regurgitation, as well as atypical symptoms such as chronic cough, hoarseness, chest pain, and dental erosions. These symptoms can severely impact the quality of life (QoL) of affected individuals, disrupting daily activities, sleep, and overall well-being. Complications of untreated GERD include esophagitis, Barrett's esophagus, esophageal strictures, and, in rare cases, esophageal adenocarcinoma.

Hye Kyung Jeon, et al. (2022) conducted an RCT study consisting of 60 GERD patients. The objective was to compare the efficacy of Sustained-Release Formula of Mosapride with Esomeprazole Combination Therapy to Esomeprazole Monotherapy in Patients with GERD. Patients were randomly assigned to two groups. Mosapride SR 15 mg combined with esomeprazole 20 mg once daily and esomeprazole 20 mg once daily alone for 8 weeks. It was concluded that adding Mosapride SR to esomeprazole in patients with GERD provides no additional benefits in controlling GERD symptoms.

Impact on Quality of Life: The persistent symptoms of GERD can significantly impair physical, psychological, and social functioning. Health-Related Quality of Life (HRQoL) measures, such as the GERD-HRQoL and Psychological General Well-Being Index (PGWBI), are commonly used to evaluate the impact of GERD on patients. These tools assess the severity of symptoms and their effects on emotional well-being, self-control, and general health.

Mental health conditions, including anxiety and depression, are frequently associated with GERD. The bidirectional relationship between psychological well-being and GERD is well-documented. Stress and emotional distress can exacerbate GERD symptoms through the gut-brain axis, while chronic GERD symptoms can, in turn, lead to increased anxiety and depression.

Sulaiman A, et al. (2020) conducted a cross-sectional study using questionnaires on GERD-HRQL consisting of 200 patients of age groups between 18-34 years in Saudi Arabia. The objective was to determine the quality of life in gastroesophageal reflux disease patients at King Saud University Medical City (KSUMC). They focused on the essential variables that affected QoL of GERD patients. As a result, it was concluded that GERD affected QoL negatively with increase of age and body mass index. None of the other demographic variables and concomitant diseases had any significant effect on the QoL of the participants.

Treatment and Management: Management of GERD involves a combination of pharmacological and non-pharmacological approaches. Proton pump inhibitors (PPIs) are the first-line treatment, effectively reducing gastric acid production and alleviating symptoms. However, lifestyle modifications, including weight management, dietary adjustments, and smoking cessation, are integral to long-term disease control. Educational interventions, particularly those led by clinical pharmacists, play a crucial role in empowering patients. Providing clear information about GERD, its triggers, and preventive strategies can enhance treatment adherence and improve outcomes. This highlights the need for multidisciplinary approaches in GERD management.

Hye Kyung Jeon, et al. (2022) conducted an RCT study consisting of 60 GERD patients. The objective was to compare the efficacy of Sustained-Release Formula of Mosapride with Esomeprazole Combination Therapy to Esomeprazole Monotherapy in Patients with GERD. Patients were randomly assigned to two groups. Mosapride SR 15 mg combined with esomeprazole 20 mg once daily and esomeprazole 20 mg once daily alone for 8 weeks. It was concluded that adding Mosapride SR to esomeprazole in patients with GERD provides no additional benefits in controlling GERD symptoms.

Rationale for the Study: Despite the availability of effective treatments, many GERD patients continue to experience diminished QoL due to persistent symptoms. There is a need to document the various therapeutic approaches and their effectiveness in real-world settings. Additionally, assessing the psychological impact of GERD and incorporating mental health support into treatment plans can further enhance patient outcomes.

Yang Won Min, et al. (2016) conducted a prospective, multicentric study with 824 subjects of Korean population. The objective was to evaluate the impact of the treatment outcome on the QoL in a Korean GERD population. As a result, Patients with GERD had a decreased HRQoL which improves with treatment, persistent symptoms after PPI therapy observations also could explain a decreased response to PPI therapy in obese patients with GERD. Thus, different lifestyles, in particular diet, may make a difference in GERD patients and affect their quality of life.

This study was conducted to explore the treatment patterns and QoL in GERD patients at a tertiary care hospital. By utilizing validated QoL scales and analyzing the data comprehensively, the study aims to provide actionable insights into the holistic management of GERD.

Methodology

Study Design and Setting

This research was conducted as a hospital-based prospective observational study over six months in the in-patient and out-patient departments of St. Philomena's Hospital, Bengaluru. The study aimed to analyze the treatment patterns and the Quality of Life (QoL) in patients diagnosed with gastroesophageal reflux disease (GERD).

Study Population

The study included adult patients diagnosed with GERD, irrespective of their gender, who consented to participate. The inclusion and exclusion criteria ensured a focused sample representing individuals with GERD without confounding factors from other significant gastrointestinal or systemic diseases.

Inclusion and Exclusion Criteria

- Inclusion Criteria:
    - Patients aged 18 years or older.
    - Both male and female participants.
    - Patients with a confirmed clinical diagnosis of GERD.
    - Patients who provided informed consent.

- Exclusion Criteria:
    - Patients with gastrointestinal complications other than GERD, such as peptic ulcers or Crohn's disease.
    - Patients unwilling to participate in the study.

Sample Size and Sampling Technique

The study enrolled a total of 52 participants over six months. Convenience sampling was used, where eligible participants were recruited based on their availability during the research team's daily visits to the gastroenterology wards and out-patient clinics. This non-probabilistic sampling method was chosen due to logistical feasibility and the need to include all patients meeting the inclusion criteria during the study period.

Variable Measurement and Data Collection

1. *Demographics and Clinical Information*

Demographic variables such as age, gender, and social habits (e.g., smoking, alcohol consumption) were recorded. Clinical data, including comorbidities, medication history, and presenting complaints, were obtained from patient case sheets and interviews.

2. *Quality of Life Assessment*

Two validated questionnaires were used to evaluate the QoL in GERD patients:

- GERD-Health-Related Quality of Life (GERD-HRQoL):

  The GERD-HRQoL questionnaire was developed by **Velanovich V. in 2007**. It was specifically designed to assess the severity of GERD symptoms such as heartburn and regurgitation and their impact on patients' daily lives. This tool has been widely used in clinical and research settings to evaluate treatment outcomes for GERD patients.

  This tool measures the severity and frequency of GERD symptoms like heartburn and regurgitation and their impact on daily life. It consists of 15 questions scored on a scale, where lower scores indicate better QoL. Scores are categorized as follows:
    - Total score (0-15): Mild symptoms with minimal impact on QoL.
    - Total score (15-30): Moderate symptoms affecting QoL.
    - Total score (30-45): Severe symptoms with significant QoL impairment.

  Sub-scores for heartburn and regurgitation are calculated to identify symptom-specific impacts. For instance:
    - Heartburn scores range from 0 (no symptoms) to 30 (severe symptoms).
    - Regurgitation scores range from 0 (no symptoms) to 30 (severe symptoms).
- Psychological General Well-Being Index (PGWBI):

The PGWBI was developed by Dupuy HJ. in the 1970s as a comprehensive tool to measure psychological well-being and stress levels in individuals. It has been validated across various populations and is frequently used in studies involving chronic conditions to evaluate the psychological impact of diseases.

This instrument evaluates psychological well-being across six domains:

- Anxiety.
- Depressed mood.
- Positive well-being.
- Self-control.
- General health.
- Vitality.

The PGWBI consists of 22 items, each scored on a scale from 0 (lowest well-being) to 5 (highest well-being). The total score ranges from 0 to 110, categorized as follows:

- Scores <60: Poor psychological well-being.
- Scores 60-90: Moderate psychological well-being.
- Scores >90: High psychological well-being.

3. *Patient Counseling and Educational Material*

Participants were provided with a patient information leaflet detailing GERD, its symptoms, triggers, and management strategies. The leaflet emphasized lifestyle modifications, such as avoiding trigger foods, maintaining an appropriate weight, and adopting better sleeping habits. Counseling sessions were conducted to educate patients about the importance of adhering to their prescribed treatments and lifestyle changes.

Statistical Methods

- Descriptive Statistics:

  Frequencies and percentages were calculated for categorical variables, such as the distribution of patients by gender, age, comorbidities, and social habits.
- Score Analysis:

  GERD-HRQoL and PGWBI scores were analyzed to determine the severity of symptoms and their psychological impact. Graphical representations, such as bar charts and pie charts, were used to visualize the distribution of scores.

Questionnaire Details

1. *GERD-Health-Related Quality of Life Questionnaire (GERD-HRQoL)*

The GERD-HRQoL questionnaire was specifically developed to measure the impact of GERD symptoms on daily life. It was validated in previous studies and is widely used in clinical and research settings. Key aspects include:

- Focus Areas: Heartburn and regurgitation symptoms.
- Scoring System: Each question is scored from 0 to 5, with higher scores indicating worse symptoms.
- Reliability: The questionnaire is highly reliable for assessing symptom severity and tracking changes over time, particularly during or after treatment.

The questionnaire was administered twice:

1. Baseline Evaluation: To assess the initial impact of GERD.
2. Post-Intervention Evaluation: To measure changes after counseling and treatment.

2. *Psychological General Well-Being Index (PGWBI)*

The PGWBI is a comprehensive tool that evaluates the psychological state of individuals in six key domains. It has been validated globally and is considered a gold standard for assessing psychological well-being.

- Focus Areas: The domains include anxiety, depression, general health, and vitality, all of which are often affected in GERD patients.
- Scoring: Each item is scored on a Likert scale, with the sum providing an overall score that reflects the psychological impact of GERD.

The PGWBI was chosen because of its ability to provide a holistic understanding of the mental health challenges faced by GERD patients, complementing the GERD-HRQoL data.

Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee of St. Philomena's Hospital. All participants were informed about the study objectives and procedures and signed an informed consent form before inclusion. Patient confidentiality was strictly maintained throughout the study.

Results:

The findings of this study provide a comprehensive analysis of the demographic, clinical, and psychological characteristics of GERD patients, emphasizing the impact of the disease on quality of life (QoL) and identifying key patterns in symptom severity, comorbidities, and treatment responses. Below is a detailed discussion of the results presented in the tables:

1. *Demographics and Social History*

The demographic profile and social history of the participants provide insight into the prevalence of GERD across different age groups, genders, and lifestyle factors.

Gender Distribution (Table 1):

The study included 52 patients, of which 33 (63.46%) were male and 19 (36.54%) were female. This indicates that GERD might be slightly more prevalent among males in the studied population, aligning with some epidemiological findings that suggest men may be more prone to complications like esophagitis.

Table 1: Distribution of patients with respect to gender

Sl.No	Gender	Number of Patients	Percentage
1	Male	33	63.46%
2	Female	19	36.54 %
3	**Total**	**52**	**100.00%**

Age Distribution (Table 2):

The participants' ages ranged from 20 to 80 years. The largest age group was 30–40 years, accounting for 30.77% of the total sample, followed by 40–50 years at 28.85%. Notably, the incidence was lowest in the 70–80 age group (1.92%). This distribution suggests that GERD predominantly affects middle-aged adults, possibly due to lifestyle factors, comorbidities, and stress-related conditions that are more prevalent in these age groups.

Table 2: Distribution of patients with respect to age

Sl.No	Age in years	Number of patients	Percentage
1	20-30	8	15.38%
2	30-40	16	30.77%
3	40-50	15	28.85%
4	50-60	8	15.38%
5	60-70	4	7.69%
6	70-80	1	1.92%
7	**Total**	**52**	**100.00%**

Social History (Table 3):

A significant majority of participants (78.85%) reported no history of smoking or alcohol consumption. However, 9.62% were smokers, 3.85% consumed alcohol, and 7.69% engaged in both habits. These findings align with established research showing

that smoking and alcohol are potential risk factors for GERD due to their effects on the lower esophageal sphincter (LES).

Table 3: Distribution of patients based on social history

Sl.No	Social History	Number of patients	Percentage
1	None	41	78.85%
2	Alcohol	2	3.85%
3	Smoking	5	9.62%
4	Both Alcohol and Smoking	4	7.69%
5	**Total**	**52**	**100.00%**

2. Clinical Characteristics

The clinical data provide an overview of the setting in which GERD is managed and its association with other health conditions.

- *Clinical Admission (Table 4):*

  Out of the 52 patients, 88.46% were treated as outpatients, while 11.54% required inpatient care. This finding underscores that GERD is generally managed in outpatient settings, with only severe or complicated cases necessitating hospitalization.

Table 4: Distribution of patients based on Clinical Admission

Sl.No	Distribution of patients	Number of patients	Percentage
1	In-Patients	6	11.54%
2	Out-Patients	46	88.46%
3	**Total**	**52**	**100.00%**

- *Comorbidities (Table 5):*

  59.62% of patients had comorbid conditions, while 40.38% had none. Common comorbidities included hypothyroidism, hypertension, and type II diabetes mellitus, as detailed below. The high prevalence of comorbidities among GERD patients indicates the need for integrated care models addressing multiple health issues simultaneously.

Table 5: Distribution of patients based on comorbidities

Sl.No	Comorbidities	Number of Patients	Percentage
1	With	31	59.62%
2	Without	21	40.38%
3	**Total**	**52**	**100.00%**

Past Medical History (Table 6):

The most frequently observed comorbidities were hypothyroidism (19.35%), hypertension (12.90%), and type II diabetes mellitus (9.68%). Other combinations,

such as diabetes and hypertension (6.45%), were also noted. The presence of multiple comorbidities highlights the complexity of managing GERD in these patients and suggests that systemic conditions may exacerbate GERD symptoms.

Table 6: Distribution of patients based on Past Medical History

Sl.No	Past Medical History	Number of Patients	Percentage
1	Hypothyroidism	6	19.35%
2	Hypertension	4	12.90%
3	Type II Diabetes Mellitus	3	9.68%
4	Asthma	1	3.23%
5	Fatty Liver, Dyslipidemia	4	12.90%
6	Type II Diabetes Mellitus, Hypertension	2	6.45%
7	Type II Diabetes Mellitus, Dyslipidemia	1	3.23%
8	Hypothyroidism, Type II Diabetes Mellitus	1	3.23%
9	Hypertension, Fatty Liver	1	3.23%
10	Hypertension, Hypothyroidism	1	3.23%
11	Hypertension, Hypothyroidism, Asthma, Dyslipidemia	1	3.23%
12	Hypertension, Hypothyroidism, Type II Diabetes Mellitus	2	6.46%
13	Hypertension, Type II Diabetes Mellitus, Fatty Liver, dyslipidemia	1	3.23%
14	Others	3	9.68%
15	**Total**	**31**	**100.00%**

- *Past Medication History (Table 7,8):*

Approximately 38.46% of participants reported using medications for past medical conditions, with 61.54% having no history of medication use. Among those with a

history of medication use, drugs for hypothyroidism (25%) and antihypertensive medications (20%) were the most common (Table 8). The use of medications, particularly those that can relax the LES (e.g.,calcium channel blockers), could influence GERD severity and frequency.

Table 7: Distribution of patients based on past medication history

Sl.No	Past Medication	Number of Patients	Percentage
1	With	20	38.46%
2	Without	32	61.54%
3	**Total**	**52**	**100.00%**

Table 8: Distribution of patients based on Type of past medications

Sl.No	Past Medications	Number of Patients	Percentage
1	Drugs for Hypothyroidism	5	25.00%
2	Antihypertensive drugs	4	20.00%
3	Antidiabetic drugs	2	10.00%
4	Antiasthmatic drugs	1	5.00%
5	Antihyperlipidemic drugs	1	5.00%
6	Antidiabetic, Antihyperlipidemic drugs	2	10.00%
7	Antidiabetic, Antihypertensive drugs	2	10.00%
8	Antihypertensive, Antidiabetic, Antihyperlipidemic drugs	1	5.00%
9	Antihypertensive, Drugs for Hypothyroidism, Antidiabetic drugs	1	5.00%
10	Antihypertensive, Drugs for hypothyroidism, Antiasthmatic, Antihyperlipidemic drugs	1	5.00%
11	**Total**	**20**	**100.00%**

3. *GERD Symptoms and Diagnostic Insights*

- *Chief Complaints (Table 9):*

  The most commonly reported symptom was a burning sensation in the retrosternal area, experienced by 96.15% of patients. Other frequently reported symptoms included abdominal pain (48.10%), abdominal bloating (28.80%), nausea and vomiting (27%), and regurgitation (25%). These findings align with the classic presentation of GERD and highlight the diverse symptomatology that can significantly impact patients' daily lives.

Table 9: Top 5 chief complaints of the patients

Sl.No	Complaints	Number of patients	Percentage
1	Burning sensation in retrosternal area	50	96.15%
2	Abdominal pain	25	48.10%
3	Abdominal bloating	15	28.80%
4	Nausea and Vomiting	14	27%
5	Regurgitation	13	25%

- *Endoscopy (Table 10):*

  Among the participants, 75% underwent endoscopy, while 25% did not. Endoscopy remains a valuable diagnostic tool for confirming GERD and identifying complications like esophagitis or Barrett's esophagus. The high utilization rate in this study reflects its importance in clinical practice.

Table 10: Distribution of patients with respect to Endoscopy

Sl.No	Endoscopy	No of patients	Percentage
1	Yes	39	75.00%
2	No	13	25.00%
3	**Total**	**52**	**100.00%**

4. *GERD-Health Related Quality of Life (GERD-HRQL)*

The GERD-HRQL questionnaire was used to assess the impact of GERD symptoms on QoL, with a focus on heartburn, regurgitation, and swallowing difficulties.

- *Heartburn (Table 11):*

  Heartburn was reported by 59.62% of patients, while 40.38% did not indicate this symptom. This reinforces that heartburn is a hallmark symptom of GERD but may not be present in all cases.

Table 11: Distribution of patients with respect to Heartburn

Sl.No	Heartburn	No. of Patients	Percentage
1	Not Indicated	21	40.38%
2	Indicated	31	59.62%
3	**Total**	**52**	**100.00%**

- *Heartburn Severity Scores (Table 12):*

  The severity of heartburn varied, with 32.69% scoring between 5–10 and 26.92% scoring between 0–5. Only 1.92% of patients reported the highest severity (scores of 25–30). These results suggest that while most patients experience mild to moderate heartburn, severe cases are less common in this cohort.

Table 12: Distribution of patients with respect to Heartburn Scores

Sl.No	Heartburn Scores	Number of patients	Percentage
1	0-5	14	26.92%
2	5-10	17	32.69%
3	10-15	4	7.69%
4	15-20	10	19.23%
5	20-25	6	11.54%
6	25-30	1	1.92%
7	**Total**	**52**	**100.00%**

- *Difficulty and Pain While Swallowing (Tables 13 & 14):*

  Difficulty swallowing was reported by 23.08% of patients, while 76.92% did not experience this symptom. Similarly, 80.76% of participants reported no pain while swallowing. These findings indicate that dysphagia and odynophagia are less frequent but significant complications in some GERD patients.

Table 13: Distribution of patients with regards to difficulty in Swallowing

Sl.No	Scores	Number of patients	Total Percentage
1	0	40	76.92
2	1	3	5.76
3	2	4	7.69
4	3	3	5.76
5	4	2	3.84
Total		**52**	**100.00**

Table 14: Distribution of patients with regards to Pain while Swallowing

Sl. No	Scores	Number of patients	Percentage
1	0	42	80.76
2	1	4	7.69
3	2	4	7.69
4	3	2	3.84
Grand Total		**52**	**100.00**

- *Regurgitation (Table 15):*

  Regurgitation was reported by 34.62% of participants, while 65.38% did not experience it. This highlights the variability in symptom presentation among GERD patients.

Table 15: Distribution of patients with regard to Regurgitation

Sl. No	Regurgitation	Number of Patients	Percentage
1	Not Indicated	34	65.38%
2	Indicated	18	34.62%
3	**Total**	**52**	**100.00%**

- *Regurgitation Severity Scores (Table 16):*

  Most patients (44.23%) scored between 0–5 for regurgitation severity, indicating mild symptoms. Only a small percentage reported severe regurgitation (scores of 20–30).

Sl.No	Regurgitation Scores	No. of Patients	Percentage
1	0-5	23	44.23%
2	5-10	12	23.08%
3	10-15	7	13.46%
4	15-20	5	9.62%
5	20-25	3	5.77%
6	25-30	2	3.85%
7	**Grand Total**	**52**	**100.00%**

- *Overall GERD-HRQL Scores (Table 17):*

  Half of the patients (50%) had total GERD-HRQL scores between 0–15, reflecting relatively low impairment. However, 30.77% scored between 15–30, indicating moderate impairment. No patients scored above 60, suggesting that severe impairment was uncommon in this cohort.

  Table 17: Distribution of patients with respect to Total Scores (GERD-HRQL)

Sl.No	Total Scores	Number of Patients	Percentage
1	0-15	26	50.00%
2	15-30	16	30.77%
3	30-45	6	11.54%
4	45-60	4	7.69%
5	60-75	0	0
6	**Total**	**52**	**100%**

- *Satisfaction with Current Condition (Table 18):*

  Patient satisfaction was low, with 19.23% expressing dissatisfaction, 73.08% feeling neutral, and only 7.69% reporting satisfaction. This indicates that GERD significantly affects patients' perceived well-being, even when symptoms are mild or moderate.

  Table 18: Satisfaction of patients with respect to their present condition

Sl.No	Present Condition	Number of Patients	Percentage
1	Dissatisfied	10	19.23%
2	Neutral	38	73.08%
3	Satisfied	4	7.69%
4	**Total**	**52**	**100.00%**

5. *Psychological Well-Being (PGWBI***)**

The Psychological General Well-Being Index (PGWBI) provided insights into the psychological impact of GERD on patients.

- *Anxiety (Table 19):*

  Anxiety scores were highest in the range of 15–20 (34.61%), followed by 10–15 (30.76%). This suggests that moderate levels of anxiety are common among GERD patients, likely exacerbated by chronic symptoms and their impact on daily life.

Table 19: Distribution of patients with respect to Anxiety scores

Sl.No	Anxiety Scores	Number of patients	Percentage
1	5-10	9	17.30%
2	10-15	16	30.76%
3	15-20	18	34.61%
4	20-25	9	17.30%
5	25-30	1	1.92%
6	**Total**	**52**	**100%**

- *Depression (Table 20):*

  Depression scores showed that 57.69% of patients had mild depression (scores of 5–10), while 32.69% experienced moderate depression (scores of 15–20). These findings emphasize the psychological burden of GERD, which may stem from both the physical discomfort of symptoms and the associated lifestyle restrictions.

Table 20: Distribution of patients with respect to Depression Scores

Sl.No	Depression Scores	Number of Patients	Percentage
1	0-5	1	1.92%
2	5-10	30	57.69%
3	10-15	4	7.69%
4	15-20	17	32.69%
5	**Total**	**52**	**100%**

Summary of Findings

This study presents a comprehensive picture of GERD's impact on patients, emphasizing the following key points:

Demographics and Risk Factors:

GERD predominantly affects middle-aged individuals, with a slight male predominance. Lifestyle factors like smoking and alcohol consumption are present but not prevalent among the majority of patients.

1. **Symptom Burden:**
   Classic symptoms like heartburn and regurgitation are common and vary in severity. While some patients experience mild symptoms, others report significant QoL impairments due to severe presentations.
2. **Comorbidities:**
   A high prevalence of comorbid conditions like hypothyroidism, hypertension, and diabetes underscores the complexity of managing GERD in these patients.
3. **Psychological Impact:**
   Anxiety and depression are prevalent among GERD patients, highlighting the need for integrated care approaches that address both physical and psychological well-being.
4. **Treatment and Satisfaction:**
   Despite pharmacological interventions, patient satisfaction remains low, indicating a need for improved management strategies and patient education.

These findings reinforce the importance of a multidisciplinary approach to GERD management, incorporating lifestyle modifications, pharmacological treatments, and psychological support.

Discussion

Gastroesophageal reflux disease (GERD) is recognized as a prevalent and chronic gastrointestinal condition, significantly impacting the quality of life (QoL) of affected individuals. This study investigated the QoL of GERD patients, focusing on their physical, mental, and social well-being, while also analyzing the treatments received. Using validated scales like GERD-HRQL and PGWBI, a comprehensive assessment of the participants' experiences with GERD was conducted.

The findings revealed that GERD symptoms are not only frequent but also debilitating, with heartburn and regurgitation being the most reported complaints. These symptoms were found to severely interfere with daily activities, including sleep, work productivity, and social interactions. Interestingly, the severity of these symptoms varied across age groups and comorbidities, underscoring the role of individual health conditions in influencing GERD's impact. The majority of patients expressed dissatisfaction with their current health status, highlighting the ongoing challenges in managing this condition effectively.

A critical aspect of this study was the exploration of psychological factors associated with GERD. Elevated levels of anxiety and depression were observed among participants,

suggesting a bidirectional relationship between mental health and GERD symptoms. This aligns with existing literature indicating that stress and emotional distress exacerbate gastrointestinal symptoms via the gut-brain axis. The PGWBI scores corroborated this, as patients with more severe GERD symptoms demonstrated lower psychological well-being.

From a therapeutic perspective, proton pump inhibitors (PPIs) remained the cornerstone of pharmacological management, providing symptomatic relief for the majority of patients. However, the variability in treatment outcomes highlights the need for a personalized approach. Lifestyle modifications, such as dietary adjustments and weight management, were emphasized as essential yet underutilized components of GERD management. Despite their potential benefits, adherence to these changes was inconsistent among the participants.

The role of patient education in improving outcomes cannot be overstated. Providing tailored counseling and information on GERD's pathophysiology, risk factors, and lifestyle interventions appeared to positively influence patient behavior. Nevertheless, further efforts are needed to enhance awareness and compliance, particularly regarding the importance of weight control and smoking cessation in reducing GERD symptoms.

Conclusion

This study underscores the multifaceted nature of GERD and its profound impact on patients' QoL. The findings highlight several key points:

1. **Significant QoL Impairment:** GERD symptoms, particularly heartburn and regurgitation, substantially impair physical, emotional, and social aspects of patients' lives. This impairment was more pronounced in individuals with comorbid conditions and older adults.
2. **Psychological Factors:** The strong association between GERD and mental health issues like anxiety and depression necessitates an integrated approach to management, addressing both physical and psychological aspects of the disease.
3. **Effectiveness of PPIs:** While PPIs were effective in managing symptoms for most patients, variability in responses suggests that adjunct therapies and a tailored approach may enhance treatment outcomes.
4. **Lifestyle Modifications:** Although lifestyle interventions, such as dietary changes, weight loss, and avoidance of triggers, are critical for GERD management, patient adherence remains a challenge. Enhanced counseling and support are required to improve compliance and effectiveness.

5. **Need for Comprehensive Patient Education:** Educating patients about GERD's mechanisms, complications, and management options is crucial. Personalized counseling can empower patients to adopt healthier behaviors, potentially alleviating symptoms and improving QoL.

In conclusion, GERD is a complex condition requiring a multidimensional approach to management. Future research should focus on identifying personalized treatment strategies, incorporating both medical and psychosocial interventions. By addressing the interplay between physical symptoms and mental health, healthcare providers can optimize patient outcomes, ensuring a better QoL for those affected by GERD.

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