

The Effect of Patient Education on Improving Quality of Life in GERD Patients

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Abstract

This study examined the impact of patient education, led by a clinical pharmacist, on the management of gastroesophageal reflux disease (GERD), focusing on the disease itself, treatment benefits, causes, lifestyle changes, and overall improvement in quality of life. The research is a prospective observational study. For mild GERD (GERD A) patients, GSRS scores were 7.552 ± 3.63 at baseline, 3.724 ± 3.39 at follow-up 1, and 1.414 ± 2.95 at follow-up 2. Moderate GERD (GERD B) patients had scores of 11.042 ± 3.52 , 5.792 ± 2.54 , and 1.917 ± 3.01 , respectively, while severe GERD (GERD C) patients scored 10.154 ± 3.955 , 6.462 ± 3.71 , and 3.00 ± 4.51 . HRQL scores for mild patients were 26.069 ± 12.77 at baseline, 16.139 ± 12.19 at follow-up 1, and 8.138 ± 13.82 at follow-up 2. Moderate patients had scores of 30.33 ± 8.61 , 17.918 ± 7.51 , and 7.583 ± 8.40 , while severe patients had scores of 35.846 ± 12.07 , 22.308 ± 8.17 , and 8.923 ± 7.51 . The significant reduction in GSRS scores indicates an improvement in the health-related quality of life (HRQL) for GERD patients. The findings suggest that patient education plays an important role in reducing symptoms and increasing the quality of life of individuals suffering from GERD.

Keywords: GERD, Quality of life (QOL), Health-related quality of life (HRQOL), GSRS

Introduction

Gastroesophageal reflux disease (GERD) is a prevalent gastrointestinal disorder marked by the regurgitation of stomach contents into the esophagus [1]. Common symptoms include epigastric discomfort, heartburn, and acid reflux. Recent healthcare approaches have shifted toward addressing chronic diseases to enhance both the quantity and quality of life (QOL). GERD, along with other chronic digestive conditions, can significantly impair health-related quality of life. In Western nations, GERD affects about 10-30% of the population, while it is less common in Asia. However, recent changes in lifestyle habits have led to a growing incidence of GERD in Asian countries [2]. In India, though the condition's

prevalence remains underreported, recent studies show an incidence rate of up to 16.2% in a large tertiary hospital [3]. The global prevalence of GERD continues to rise, with complications such as Barrett's esophagus and esophageal adenocarcinoma also increasing [4]. Patients with GERD typically report a lower HRQL compared to the general population, with their quality of life being negatively impacted similarly to other chronic conditions like diabetes, arthritis, or heart disease. Reflux symptoms, especially those occurring frequently, are linked to a significant deterioration in overall health [5]. Even symptoms that occur once a week can have a clinically significant effect on health-related quality of life [6]. Additionally, GERD is commonly associated with sleep disturbances, with nocturnal reflux further worsening HRQL. This study aims to evaluate the effect of patient education, guided by a clinical pharmacist, on disease management, treatment benefits, lifestyle changes, and overall improvement in the quality of life for GERD patients [7-14].

Materials and Methods

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This research was designed as a prospective observational study with a six-month follow-up, conducted between December 2014 and May 2015 at the Gastroenterology outpatient clinic of Bhimavaram Hospitals, a tertiary care facility. Ethical approval for the study was granted by the hospital's Institutional Ethical Review Board (SVCP/IEC/15/5), and all participants provided informed consent before participating.

Inclusion criteria

Participants had to be between the ages of 12 and 60, newly diagnosed with GERD, and show endoscopic evidence of reflux esophagitis or erosive esophagitis.

Exclusion criteria

Patients who were already diagnosed with GERD before the study were excluded.

Data collection

Data for this study were sourced from various channels, including endoscopy results, the Gastrointestinal Symptom Rating Scale (GSRS), the Health-Related Quality of Life (HRQOL) Scale, and information gathered from patients, their families, healthcare staff (including physicians and nurses), and educational materials.

Statistical analysis

All data were organized in Microsoft Excel 2007, and descriptive statistics were used to summarize variables such as age, gender, diagnosis, and quality of life scores. The SAS software was used to calculate the mean and standard deviation (SD) for the GSRS and HRQOL scores, while statistical analysis (including t-tests and p-values) was performed using SPSS.

Results and Discussion

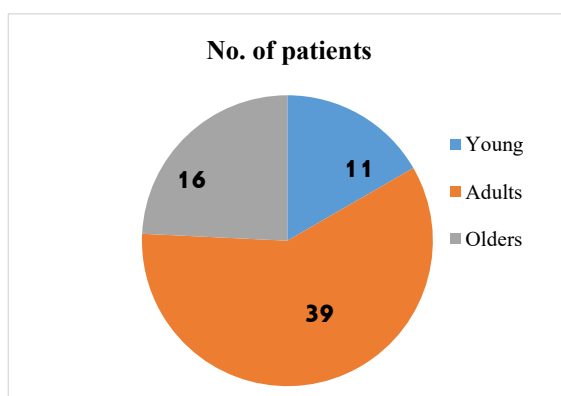


Figure 1. Age distribution

The age distribution of the study participants is depicted in **Figure 1**. Based on the World Health Organization's age classifications, the study population was categorized into three groups: young (18-29 years), adults (30-54 years), and elders (> 55 years). Out of the total 66 participants in the final sample, 11 (16.66%) were in the young group, 39 (59.10%) in the adults group, and 16 (24.24%) in the elders group. Initially, 82 patients were enrolled, but 16 were excluded due to lack of follow-up, leaving 66 participants in the final analysis. Of the 66 participants, 31 (46.97%) were male, and 35 (53.03%) were female.

The distribution of diagnoses according to age group is presented in **Figure 2**. The incidence of GERD was notably higher in the adult group compared to both the elderly and young groups (**Table 1; Figure 2**). Among the 11 young participants, 4 were diagnosed with mild GERD (GERD A), 6 with moderate GERD (GERD B), and 1 with severe GERD (GERD C). Of the 39 adult participants, 17 had mild GERD (GERD A), 14 had moderate GERD (GERD B), and 16 were diagnosed with severe GERD (GERD C). Among the 16 elderly participants, 8 were diagnosed with mild GERD (GERD A), 4 with moderate GERD (GERD B), and 4 with severe GERD (GERD C).

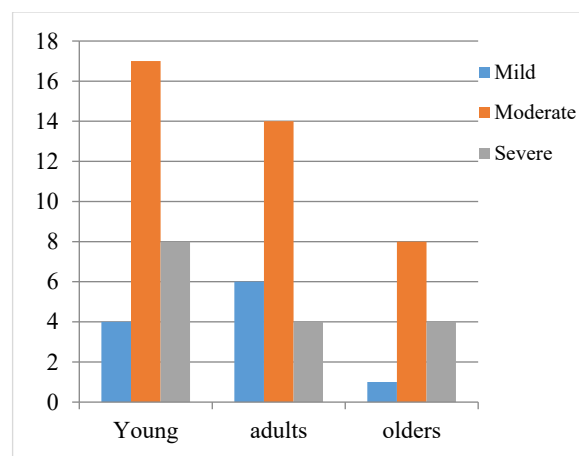


Figure 2. Distribution of age according to diagnosis

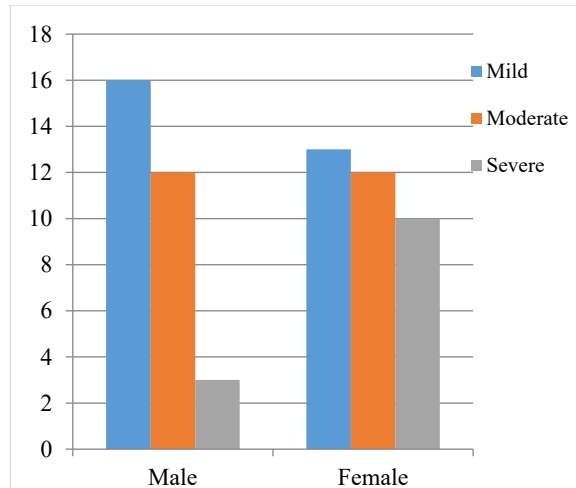


Figure 3. Distribution of gender according to diagnosis

The incidence rate was higher in females than in males according to the findings of this study. Among the 31 male patients, sixteen were diagnosed with mild GERD (GERD A), twelve with moderate GERD (GERD B), and 3 with severe GERD (GERD C), as shown in **Figure 3**.

Table 1. Quality of life scores

Diagnosis		Baseline	Follow up 1	Follow up 2
Mild (GERD A)	GSRS	7.552 ± 3.63	3.724 ± 3.39	1.414 ± 2.95
	HRQL	26.07 ± 12.77	16.138 ± 12.185	8.138 ± 13.82
Moderate (GERD B)	GSRS	11.042 ± 3.52	5.792 ± 2.54	1.917 ± 3.01
	HRQL	30.33 ± 8.61	17.916 ± 7.51	7.583 ± 8.40
Severe (GERD C)	GSRS	10.154 ± 3.96	6.462 ± 3.71	3.0 ± 4.509
	HRQL	35.846 ± 12.07	22.308 ± 8.17	8.923 ± 7.51

Among the 35 female participants, 13 were diagnosed with mild GERD (GERD A), 12 with moderate GERD (GERD B), and 10 with severe GERD (GERD C). To evaluate the impact of GERD on the patient's daily lives, we assessed their quality of life (QOL) using two tools: the GSRS scale and the GERD-HRQL questionnaire. The GSRS scale was used to determine symptom scores for each participant, while the HRQL questionnaire was employed to assess their overall quality of life. Each subject's scores were collected at three different stages:

at baseline (right after diagnosis and before intervention), at Follow-up 1 (one month post-intervention), and follow-up 2 (two months after intervention), as detailed in **Table 1**.

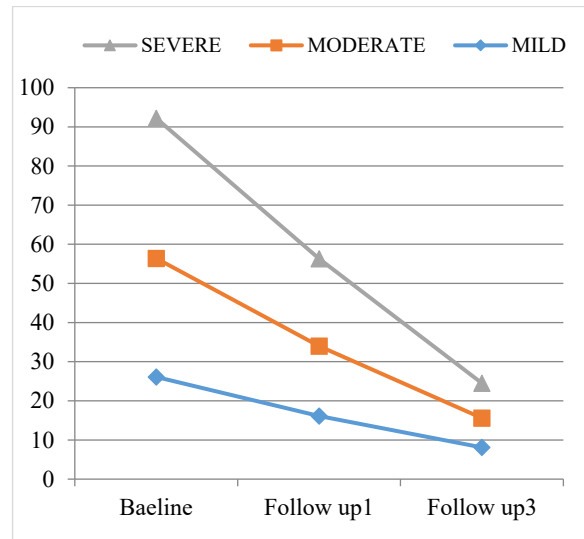


Figure 4. Comparison of GSRS scores against disease

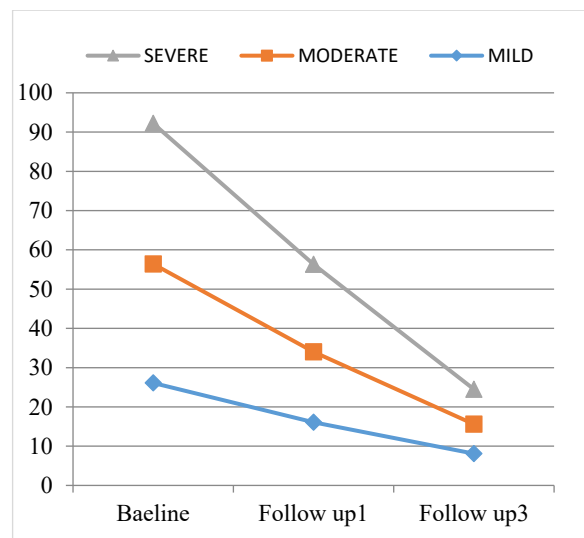


Figure 5. Comparison of HRQL scores against disease

The quality of life (QOL) scores are illustrated in **Figures 4 and 5**. The mean and standard deviation were calculated for both the GSRS and HRQL scales. For mild GERD (GERD A) patients, GSRS scores at baseline, follow-up 1, and follow-up 2 were 7.552 ± 3.63 , 3.724 ± 3.39 , and 1.414 ± 2.95 , respectively. Moderate GERD

(GERD B) patients had scores of 11.042 ± 3.52 , 5.792 ± 2.54 , and 1.917 ± 3.01 , and severe GERD (GERD C) patients recorded scores of 10.154 ± 3.955 , 6.462 ± 3.71 , and 3.00 ± 4.51 . For HRQL, mild GERD patients' scores were 26.069 ± 12.77 , 16.139 ± 12.19 , and 8.138 ± 13.82 , while moderate GERD patients scored 30.33 ± 8.61 , 17.918 ± 7.51 , and 7.583 ± 8.40 , and severe GERD patients had scores of 35.846 ± 12.07 , 22.308 ± 8.17 , and 8.923 ± 7.51 . These results demonstrate a clear reduction in GSRS and HRQL scores from baseline to follow-up assessments, indicating that patient education and lifestyle changes have a positive effect on improving quality of life.

GERD, a prevalent chronic condition, is known for its substantial negative effects on health-related quality of life (HRQL). The QOL of individuals is an important indicator of their physical and mental well-being in daily life. The use of QOL measurements helps healthcare providers assess the effectiveness of treatments and manage patient outcomes. While clinical pharmacy services are still developing in many countries, including India, where pharmacy practices are in the early stages, clinical pharmacists are increasingly involved in patient counseling to enhance therapy and improve the overall quality of life for patients. For GERD patients, focused counseling and management are essential to alleviate symptoms and improve their HRQL. Pharmacists, through counseling, have the potential to positively impact GERD patients' health outcomes. This study highlights the role of pharmacist-guided patient education in improving both symptom relief and HRQL for patients with GERD.

Study limitations

The findings from this study do not apply to pediatric patients or pregnant women.

Conclusion

This study concludes that GERD significantly impacts the quality of life for affected individuals. It highlights the crucial role of patient education in improving healthcare outcomes. The involvement of pharmacists was shown to contribute substantially to reducing GSRS scores over time, with notable improvements from baseline to follow-up assessments. The reduction in GSRS scores indicates a clear enhancement in the health-related quality of life (HRQL) for GERD patients. Based on these findings, the study concludes that patient

education is an effective strategy to alleviate symptoms and enhance the quality of life for individuals with GERD.

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Conflict of Interest: None

Financial Support: None

Ethics Statement: None

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