Impact of Patient Education on Quality of Life in Gastroesophageal Reflux Disease

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ABSTRACT

The research pays more attention on evaluating the impact of patient education as directed by a clinical pharmacist concerning the disease, useful effects of treatment, causes of the disease, life style modifications and finally improving quality of life of patients diagnosed with Gastroesophageal reflux disease (GERD). It is a prospective observational study, GSRS scores according to baseline, follow up1 and follow up2 were 7.552 ± 3.63, 3.724 ± 3.39 and 1.414 ± 2.95 in mild (GERD A) patients. In moderate patient, scores were 11.042 ± 3.52, 5.792 ± 2.54 and 1.917 ± 3.01, in severe 10.154 ± 3.955, 6.462 ± 3.71 and 3.00 ± 4.51. HRQL scores of mild (GERD A) patient were 26.069± 12.77, 16.139± 12.19 and 8.138 ± 13.82 according to baseline, follow up1 and follow up2. Similarly moderate (GERD B) patient scores were 30.33±8.61, 17.918 ± 7.51 and 7.583 ± 8.40. Severe (GERD C) scores were 35.846 ± 12.07, 22.308 ± 8.17 and 8.923 ± 7.51. The significant reduction in GSRS scores shows developments in health related quality of life (HRQL) of GERD affected individuals. According to the results of this study, it shows that patient education can effectively reduce symptoms and improve the QOL of GERD patients.

Key Words: *GERD, QOL, HRQOL, GSRS*

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INTRODUCTION

Gastroesophageal reflux disease (GERD) is a common clinical disorder that refers to the refluxing of stomach contents to the oesophagus [1]. The symptoms of this disease are; epigastric pain, heart burn and acid regurgitation. Recently, the focus of medical care has shifted towards managing chronic diseases to optimize quantity and quality of life (QOL). GERD and chronic gastrointestinal disorders can pose a tremendorous undesirable effect on the health-related quality of life. The prevalence of GERD ranges in western countries varies from ten to thirty percent of the population. Prevalence was less in Asia compared to Western countries. But, the latest studies reveals that changes in life style habits causes an increase in incidence in Asia [2]. There is inadequate information about the scale of the condition in India. In new literature, the incidence of this condition is found to be up to 16.2% between the personal of a large tertiary hospital in India [3]. The prevalence of GERD is growing globally with complications, such as barret's esophagus and esophageal adenocarcinoma [4]. Health-related quality of life (HRQL) is found to be much lesser as compared with the overall population. The affected patients can be compared with other chronic conditions like diabetes, arthritis or chronic heart failure. The symptoms of this condition are found to have higher negative effect on the general health in those patients with symptoms reflux symptoms, increasing frequency and severity of symptoms of GERD in high frequency [5]. Those symptoms of reflux which are experienced once every week may have a clinically significant, negative impact on many faces HRQL [6]. Reflux disease is often seen in association with a sleep disorder, and the manifestation of nocturnal reflux signs may conversely affect HRQL. This research pays more attention to evaluating the impact of patient education as directed by a clinical pharmacist concerning the disease, useful effects of treatment, causes of the

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disease, life style modifications, and finally, improving quality of life of patients diagnosed with GERD [7-9].

MATERIALS AND METHODS

The study was a prospective observational and follow-up study was performed for six consecutive months (from Dec 2014 to May 2015) in the Gastroenterology outpatient department of a tertiary care hospital (Bhimavaram Hospitals, Bhimavaram). The clearance of the Ethical Committee was obtained from the Institutional Ethical Review Board of the hospital with **SVCP/IEC/15/5**. Informed consent was acquired from the individuals prior to participating in the research.

Inclusion criteria

Age between 12 to 60 years**,** patients who newly diagnosed with GERD, Positive GERD endoscopy report with reflux esophagitis, erosive esophagitis

Exclusion criteria

Patient who are diagnosed with GERD

Sources of data

Endoscopy data, gastrointestinal symptom rating scale (GSRS) Scale, HRQOL Scale, patient & their representatives, physicians, nurses and information leaflets

Statistical analysis

The parameters monitored were entered on Microsoft excel 2007 and applied descriptive statistics for each variable include age, gender, diagnosis and QOL scores. SAS program was used to calculate the MEAN and standard deviation (SD) OF GSRS and HRQOL scores. P-value and t-value were calculated by using SPSS [10-13].

RESULTS AND DISCUSSION

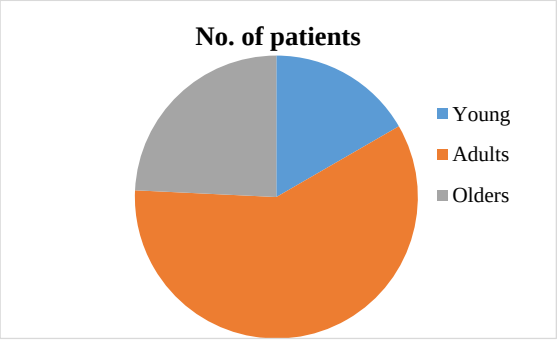

Figure 1. Age distribution

Age wise distribution among the study population was mentioned in the **Figure 1**. According to WHO age classification, study population was divided in to three classes, YOUNG (From 18-29), ADULTS (From 30-54) and ELDERS (>55). Among the study population (N=66), Incidence was 11(16.66%) in YOUNG, 39 (59.10%) in ADULTS and 16 (24.24%) in ELDERS. A total of 82 patients were included in the study, but due to lack of follow up 16 patients were excluded from the study. So, finally 66 patients recruited in the study (N=66). Among the study population (N=66) 31 (46.97%) were male and 35 (53.03%) were female. Distribution of age according to diagnosis was mentioned in **Figure 2**; the occurring rate was far higher in ADULTS compared to both ELDERS & YOUNG **(Table 1 and Figure 2)**. In 11 YOUNG subjects 4 mild (GERD A), 6 moderate (GERD B) & 1 were diagnosed with severe (GERD C). In 39 ADULT subjects 17 mild (GERD A), 14 moderate (GERD B) & 16 were diagnosed with severe (GERD C). In 16 ELDER subjects 8 mild (GERD A), 4 moderate (GERD B) & 4 were diagnosed with severe (GERD C).

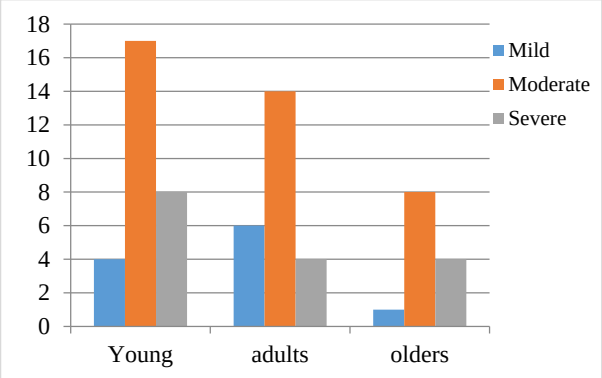

Figure 2. Distribution of age according to diagnosis

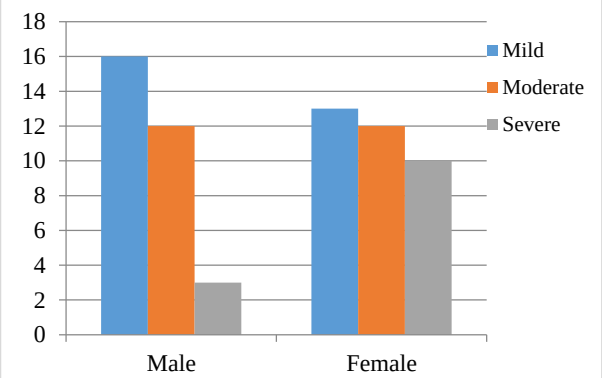

Figure 3. Distribution of gender according to diagnosis

Incidence rate was more in females compared to males according to this study. Among 31 male patients, 16 are diagnosed with mild (GERD A), 12 diagnosed with moderate (GERD B) and 3 diagnosed with severe (GERD C) mentioned in **Figure 3**.

Table 1. Quality of Life scores

Diagnosis		Base line	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

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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 35 female patients, 13 are mild (GERD A), 12 are moderate (GERD B) and 10 were diagnosed with severe (GERD C).

Quality of life is used to assess how much patients are daily effecting with GERD. For assessing quality of life we used to scales: GSRS scale and GERD-HRQL questionnaire. GSRS scale used to calculate the symptom's score of subjects who were enrolled in to the study. HRQL scale used to estimate the quality of life of each individual subject. Scores were assessed three times for each subject: Baseline (immediately after diagnosis & before intervention), Follow up 1 (1 month after intervention) and Follow up 2 (2 months after intervention) mentioned in **Table 1**.

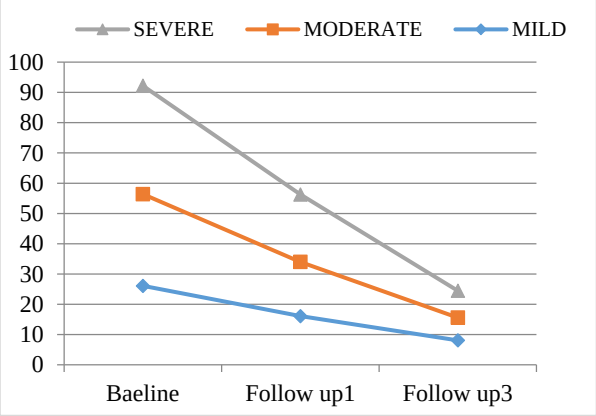

Figure 4. Comparison GSRS scores against disease

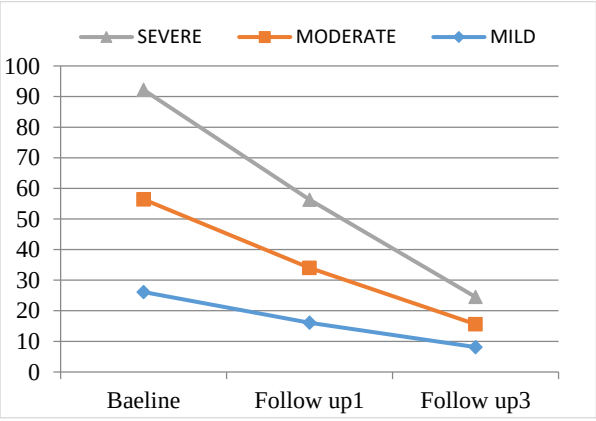

Figure 5. Comparison of HRQL scores against disease

QOL scores were mentioned in the **Figures 4 and 5**. Mean and standard deviation were calculated for both GSRS & HRQL scales. GSRS scores according to baseline, follow up1 and follow up2 were 7.552 ± 3.63, 3.724 ± 3.39 and 1.414 ± 2.95 in mild (GERD A) patients. In moderate patient, scores were 11.042 ± 3.52, 5.792 ± 2.54 and 1.917 ± 3.01. In severe 10.154 ± 3.955, 6.462 ± 3.71 and 3.00 ± 4.51. HRQL scores of mild (GERD A) patient were 26.069± 12.77, 16.139± 12.19 and 8.138 ± 13.82 according to baseline, follow up1 and follow up2. Similarly moderate (GERD B) patient scores were 30.33±8.61, 17.918 ± 7.51 and 7.583 ± 8.40. Severe (GERD C) scores were 35.846 ± 12.07, 22.308 ± 8.17 and 8.923 ± 7.51. Scores in the table shows significant decline in GSRS & HRQL scores from baseline to follow up1 and follow up2. These declines in scores shows life style modifications and patient education are useful in improving quality of life.

GERD is a chronic gastrointestinal disorder which is common and it presents a significant negative impact on health-related quality of life. QoL is a reflection of a person's mental and physical well-being in their everyday life. QoL measurement has been useful for the health care team about the drug therapy and its efficacy of treatment. In several countries, the services rendered by the clinical pharmacy are their initial stage, where pharmacists spend most of their time in distributing and manufacturing activities [14]. In India, pharmacy practices are at their initial stage. The clinical pharmacist's involvement in a patient with paying attention to education and counseling is method encouraged to enhance drug therapy and facilitate patient's quality of life [15, 16]. GERD affected individuals need improved counseling and management to relieve symptoms and improve health-related quality of life [17]. In health care sector, pharmacist's sit at a level where they can offer patient counseling as an intervention to achieve outcomes that will improve patient health-related quality of life [18]. This study provides how pharmacist mediated patient counseling improves definite outcomes like reliving from symptoms and HRQL in GERD patients.

Limitations of the study

Limitations of this study results are not applicable to pediatrics and pregnant women.

CONCLUSION

The conclusion of this study suggests that GERD affects the quality of life of patients. Patient education has a significant effect in facilitating health care outcomes. The research also shows that pharmacist's involvements significantly reduced GSRS score progressively from baseline to follow up1 & follow up2. The significant reduction in GSRS scores shows improvement in the health-related quality of life (HRQL) of GERD affected individuals. According to the results, this study concludes

that patient education can effectively reduce symptoms and improve the QOL of GERD patients.

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Conflict of interest: None

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Ethics statement: The ethical clearance for the research was given by Institutional Ethical Review Board, Shri Vishnu college of Pharmacy, Bhimavaram.

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