



**PRACTICE PATTERNS OF PRIMARY CARE PHYSICIAN ON CLINICAL  
MANAGEMENT OF GERD IN GUJRANWALA - PAKISTAN**

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**ABSTRACT**

**Background:** Gastro-esophageal Reflux disease (GERD) is the most commonly managed condition by primary care physicians while little is known about perception and practice patterns for its clinical management. **Objective:** To observe the practice patterns used for the diagnosis and management of GERD, among primary care physicians of Gujranwala - Pakistan. **Methodology:** A pilot study was conducted from September 2017 to March 2018 in Gujranwala – Pakistan. Knowledge, Attitude, and Practice (KAP) survey questionnaire were utilized in this study, comprised of 8 items related to clinical practices and diagnosis of GERD. Physicians from age between 30 to 85 years of both genders, with a minimum of two years of current clinical experience, were included in this study. The study was conducted according to the guidelines of Good Epidemiology Practice and the data was analyzed through SPSS version 21.0. **Results:** A total of 81 physicians (79% males & 21% females) with a mean age of 38.18±11.21 years were asked to fill the questionnaire for their practice in GERD management. Out of all, 53.1% physicians had 10 years of work experience while only 4.9% had up to 40 years of practicing experience and dealt with an average of 52.4% GERD complaints per week. Around 77% of the physicians reported that they rely on medical history for diagnosis. 79% preferred management through proton pump inhibitors (PPIs) as first-line treatment, 12% preferred prokinetic agents and 54.3% favored lifestyle modifications along with medication. **Conclusion:** Lifestyle modifications along with medication is the most deployed practice while the effective therapeutic agent was found to be PPIs. It has also been observed that national clinical practices are complimenting with international guidelines for GERD diagnosis & management.

**KEYWORDS:** Gastro-esophageal, preferred management, proton pump Inhibitors, heart burn.

**INTRODUCTION**

Gastro-esophageal reflux disease (GERD) is considered a very prevalent yet manageable medical condition that affects almost all humans once in their life span.<sup>[1]</sup> The studies on GERD prevalence report diverse results from various regions of the world, such as 10-20% western population has been estimated to have GERD. Its prevalence in Asia, has been reported as 5.2%-8.5% in Eastern region while 6.3-18.3% in Southern regions.<sup>[2]</sup> Pakistan has been estimated to have a 22.2% prevalence of GERD.<sup>[3]</sup> However, it is assumed that such prevalence ratio might be greater in numbers but due to lack of reporting definite figures of incidence and prevalence are still missing.<sup>[4]</sup> Although, the direct healthcare cost of GERD is \$12.1 Billion among other digestive disorders along with an indirect cost of \$15 billion globally depending on medication making the most of it.<sup>[5]</sup>

GERD is known to largely mark the morbidity but rarely become a cause of mortality until it transmutes into Barrett's esophagus or adenocarcinoma.<sup>[6]</sup> Still, factors like the genetic expression, unhealthy food patterns, and environmental dissimilarities can lead to worsening the

disease and adds up complications.<sup>[7]</sup> The clinical manifestation of GERD could either be with typical or atypical symptoms<sup>[8]</sup> where typical symptoms include heartburn, regurgitation, dyspepsia, chest pain and upper abdominal pain.<sup>[9]</sup> While, atypical symptoms include asthma, laryngitis, sore throat, subglottic stenosis, and chronic cough.<sup>[8]</sup>

Patients presented with typical symptoms can be treated without any diagnostic testing on the basis of medical history.<sup>[10]</sup> Nevertheless, in some cases like patients with atypical symptoms, it is recommended to approach approved diagnostic methods for example; endoscopy, response to acid suppression medication and pH monitoring<sup>[6]</sup> where most of the endoscopic or erosive changes are 97% associated with GERD.<sup>[10,11]</sup> Risk factors related to this disease have not been life-threatening but can be a progressive factor in developing complications. International medication patterns for GERD contain realistic therapy consisting of PPIs as a widely used therapeutic agent for mucosal repairing whereas, H<sub>2</sub>-receptor antagonists (H<sub>2</sub>RA) are also useful for relief from night-reflux.<sup>[4,12]</sup> Avoiding complications,

early diagnosis, and adequate treatment have been practiced since long to manage the disease as per recommended guidelines.

In 2015, a study stated a shift in the management practice of GERD from 1998 to 2008 i.e. H<sub>2</sub>RA used to be a common choice but recent practices turned to endorse PPIs more, as well as the use of endoscopy has been increased too<sup>[13]</sup>. This Knowledge, Attitude and Practices (KAP) survey has been conducted in order to understand about the common practices that primary care physicians follow in Pakistan to treat GERD patients, in the light of provided guidelines as well as to assess how it is impacting the management of health care cost.

#### METHODOLOGY

A pilot study based on non-probability convenient sampling was conducted from September 2017 to March 2018. Total 81 primary care physician of Gujranwala (Pakistan) were selected and assessed for the knowledge of clinical practices in the management of GERD using a Knowledge, Attitude, and Practice (KAP) survey questionnaire<sup>[14]</sup>. The questionnaire was based on 8 questions regarding the physician's work experience, the inflow of patients with GERD complaints and practices of physicians in the management of GERD patients.

A written consent form was obtained from each physician prior to enrollment in the study and privacy of data was ensured by providing code to each form. Physicians age between 30 to 85 years of both genders, with minimum two years of current clinical experience in government or private sector hospital/clinic and with valid Pakistan Medical & Dental Council (PMDC) registration certificate were included in this study.

The study was conducted according to the guidelines of Good Epidemiology Practice (IEA European Federation, 2004), the principles of the Declaration of Helsinki (1964) and follows all local laws and regulations. The data were analyzed through descriptive statistics using the Statistical Package for Social Sciences (SPSS) version 21.0. Categorical variables have been presented with frequency and percentage while continuous variables have been presented with mean  $\pm$ S.D. No comparison could be predicted since this was a descriptive exploratory study.

#### RESULTS

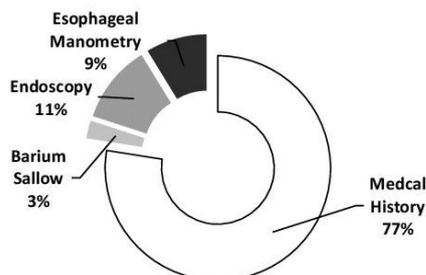
A total of 81 physicians took part in the survey with a mean age of  $38.18 \pm 11.21$  years. Out of all, 64 (79%) were males. Overall 53.1% of physicians reported to have 10 years of experiences while 25.9% had experience of more than 10 years. (Table.1).

**Table 1: Demographics of physicians and their routine practices.**

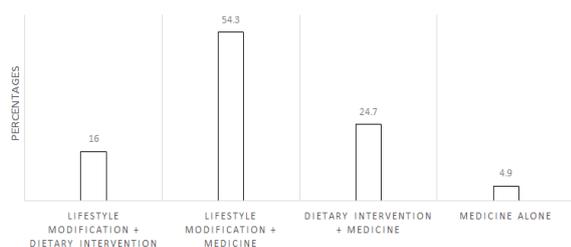
	Mean $\pm$ S.D
<b>Age (Years)</b>	38.18 $\pm$ 11.21
	<b>n(%)</b>
<b>Gender</b>	
Male	64 (79.0)
Female	17 (21.0)
<b>Total Work Experience</b>	
Less than 30 years	13 (16.0)
Up to 40 years	4 (4.9)
	<b>n(%)</b>
<b>GI complaints/week (n)</b>	
More than 50	55(67.9)
Less than 50	25(30.9)
<b>Complaints of GERD / week</b>	70.30 (52.4)
<b>Patients suffering from recurrent GERD (%)</b>	
More than 50	43 (53.1)
Less than 50	38 (46.9)
<b>Pathologic causes associated with recurrent GERD</b>	
Delayed Gastric Emptying	37 (45.7)
Esophageal Acid Clearance	18 (22.2)
Other	11 (13.6)
Transient LES Relaxation	10 (12.3)
Hiatal Hernia	5 (6.2)
<b>GERD symptoms</b>	
Heartburn	53 (65.4)
Chest Pain	11 (13.6)
Dysphagia	7 (8.6)
regurgitation	5 (6.2)
Nausea	3 (3.7)
Other	2 (2.50)

\*S.D: standard deviation

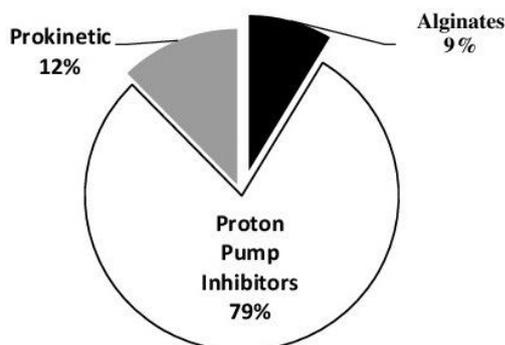
Majority of the clinicians reported to count on past medical history and present complaints to diagnose GERD in Patients (Figure 1) while only 12% of physicians reported using pH monitoring for the diagnoses. Lifestyle modifications are considered to be the prime management strategy for GERD by many of the practitioners. However, management through medication is considered as an add-on therapy for the disease (Figure 2). Whereas in medication therapy, PPIs were the choice of many physicians, none of the clinicians found to prescribe the H<sub>2</sub>RA (Figure 3).



**Figure 1: Showing preferred diagnostic methods for the assessment of GERD.**



**Figure 2: Showing preferred techniques opted by physicians for the management of GERD.**



**Figure 3: Showing preferred medication by Physicians for the treatment of GERD.**

## DISCUSSION

The present study was aimed to assess the common practices and knowledge attributes of physicians regarding GERD management and to identify the factors that influence the clinical practices of physicians in terms of preferred management patterns, diagnostic methodology and patient flow. Study results showed that physicians with almost 40 years of experience in clinical

practices had a greater integer of patient flow as compared to those physicians having 10 or lesser years of experience. Though it is already established fact that patients usually prefer to visit an experienced and highly qualified physician<sup>[15, 16]</sup> while psychosocial inclination of patients shows that more experienced physician have more patients' pool with symptomatic GERD complication.<sup>[15,16]</sup>

The most common complains reported by affected population were heartburn, chest pain, and regurgitation. Many studies support that heartburn is a major symptom reported by GERD patients followed by regurgitation and chest pain around the world.<sup>[8,4,17]</sup> All these symptoms represented as a typical manifestation of GERD that can be the foundation of diagnosis thus does not require any special diagnostic interventions.<sup>[9]</sup> However, patients with recurrent GERD are recommended for scheduled diagnostic techniques. In a future of acid suppression therapy (FAST) study upper endoscopy has been found to prefer increasingly by both gastroenterologists as well as primary care physician<sup>[18]</sup> as depicted by our study results that physicians give considerable preference to endoscopy as a diagnostic method.<sup>[18]</sup>

A sedentary lifestyle is found to be one of the major factors in the development of GERD. According to a study it was suggested that physical activity for 30 minutes a day helps to reduce the risk of GERD.<sup>[17]</sup> It has been proposed that life style modification along with medication is somewhat the adequate approach in managing the disease.<sup>[17]</sup> Present findings are in line with the proposed explanation of the study where the highest number of physicians preferred management through lifestyle alteration. Stomach diseases are directly linked to dietary habits and lifestyle modification in our culture, modification in eating patterns is a positive correlated risk and progression of GERD. Lifestyle modifications include physical activities and dietary variation like intake of fibrous food has found to be very effective in treatment process<sup>[19]</sup> since nitric oxide is responsible for its potent effect in relaxing the esophageal sphincter, therefore, adding up fibrous food in diet will release nitric oxide in acidic medium and hence will prevent GERD symptoms.<sup>[19]</sup>

As for the medication therapy, according to the FAST Study, 32% gastroenterologists and 17% of general physicians preferred PPIs over other medicaments. Our results also suggested PPIs as the most prescribed therapeutic agent by all the clinicians while none of the physicians preferred H<sub>2</sub>RA, it could be because they act centrally and produces side effects including mental confusion, depression, and drowsiness.<sup>[19]</sup> According to a survey conducted, more than 50% American and Australian physicians were reported for the same practice of prescribing the PPIs as the first line treatment while only 13% prescribed H<sub>2</sub>RA.<sup>[20,21]</sup> Over the years, studies have also evaluated PPIs as a significant therapeutic

agent to reduce acid secretion and protect mucosal membrane thus prevent progression of the disease.<sup>[3,22]</sup> Although there is no doubt on using PPIs as first-line treatment, However according to current studies prokinetic agents for esophageal activities are also important to prevent GERD.<sup>[23,24]</sup>

As Pan and Miller evaluated a shift in the general practice of GERD after 2008 in which use of H<sub>2</sub>RA has been reported to decline and PPIs are becoming more popular, with more focus on endoscopy for diagnosis and heart burn/reflux as the major symptomatic indication.<sup>[13]</sup> The outcomes of the present study reflect the same practices by Pakistani physician for GERD treatment that correspond with the new shift in practices highlighted by Pan and Miller in their study. These findings might provide a foundation for further study regarding intervention in improving the clinical practices of GERD.

### CONCLUSION

The present study suggests that diagnosis and practices for GERD were based on expert consensus and experiences. Majority of physician's opinion holds that it is appropriate to offer life style modifications followed by PPIs as first-hand therapy for GERD. It is further concluded that popular local practices are similar to international guidelines for patients with consistent symptoms of GERD. However, it is also rational to assume that the diagnostic methods must be reconsidered in order to make an effective disease management plan.

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