REVIEW

Patient satisfaction with medication for gastroesophageal reflux disease: A systematic review

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BACKGROUND: Patient satisfaction is increasingly regarded as an important aspect of measuring treatment success in individuals with gastroesophageal reflux disease (GERD).

OBJECTIVE: To review how satisfied patients with GERD are with their medication, and to analyze the usefulness of patient satisfaction as a clinical end point by comparing it with symptom improvement.

METHODS: Systematic searches of the PubMed and EMBASE databases identified clinical trials and patient surveys published between 1966 and 2009.

RESULTS: Twelve trials reported that 56% to 100% of patients were 'satisfied' or 'very satisfied' with proton pump inhibitor (PPI) treatment for GERD. Patient satisfaction levels were higher for PPIs than other GERD medications in two trials. The sample-size-weighted average proportion of patients 'satisfied' with their PPI after four weeks of treatment in trials was 93% (95% CI 87% to 99%), with 73% (95% CI 62% to 83%) being 'very satisfied'. In four surveys, the average proportion of patients 'satisfied' with their PPI treatment was 82% (95% CI 73% to 90%) and 62% (95% CI 48% to 75%) were 'very satisfied'. Seven trials found a positive association between patient satisfaction and symptom improvement, and two surveys between satisfaction and improved health-related quality of life. Three trials found that continuous treatment yielded higher rates of satisfaction than on-demand therapy.

CONCLUSIONS: More than one-half of patients were satisfied with their PPI medication in trials, and more patients were satisfied with PPIs than other medication types. An association between patient satisfaction and symptom resolution was found, suggesting that patient satisfaction is a useful end point for evaluating GERD treatment success.

Key Words: GERD; Medication; Patient-reported outcome; Satisfaction; Therapy

Gastroesophageal reflux disease (GERD), characterized by troublesome heartburn and/or acid regurgitation (1), is a chronic disease that has a substantial impact on health-related quality of life (HRQoL) (2,3). The patient's perspective on treatment outcome is increasingly being regarded as an important aspect of measuring the success of treatment for GERD in both clinical practice and research (4).

At an international workshop on symptom evaluation in reflux disease, 93% (26 of 28) of participants agreed on the need for increased emphasis on patient satisfaction as an outcome in treatment trials (5). Furthermore, the United States Food and Drug Administration (FDA) recently issued guidelines supporting the use of patient-reported outcomes in clinical trials (6). It is likely that the FDA guidance will translate into policy in the near future, although there is agreement that HRQoL and patient satisfaction should not be a primary outcome measure in clinical trials (7).

Although an increasing number of studies are measuring patient satisfaction with GERD treatment, there has been no systematic review of the evidence to determine whether patient satisfaction is of use as an outcome measure and in differentiating treatments. The aims of the present systematic review were first to assess how satisfied GERD patients are with their medications and, second, to analyze the value of patient satisfaction as an end point, by comparing it with another measure of treatment success, symptom improvement.

METHODS

PubMed and EMBASE were systematically searched to identify articles published in English between January 1966 and August 14, 2009, using the search strategy detailed in Figure 1. As additional sources of data, the reference lists of selected review articles were also searched.

Study selection

Data were obtained from clinical trials (randomized controlled trials [RCTs] and open-label studies, including those using on-demand treatments) in which patient-reported satisfaction was an outcome. Population-based surveys that included assessment of the proportion of individuals with GERD who were satisfied with their treatment were also selected. The medications searched for included proton pump inhibitors (PPIs), histamine type 2 receptor antagonists (H2RAs), antacids and prokinetics (Figure 1).

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Ten clinical trials were excluded for the following reasons: five because the percentage of patients satisfied with treatment or a mean satisfaction score from a questionnaire were not reported; two trials because therapy was used in conjunction with surgery; one trial because satisfaction was not patient-reported; one trial because the data were reported only in the congress abstract and not in the full article; and one trial because the study focused on satisfaction after switching medication. Four patient surveys were excluded because the percentage of patients satisfied with treatment were not reported; one survey was excluded because it focused mainly on switching medication.

The following data were collected from the full-text articles describing the selected studies: study design, participant details (including whether endoscopy had been performed), sample size, details of medication, definition of satisfaction, satisfaction rating scale, and the proportion of satisfied patients or mean satisfaction score.

**Definition of satisfaction**

Two levels of satisfaction were assessed. Patients were considered to be very satisfied if they reported being ‘extremely satisfied’, ‘totally satisfied’, ‘completely satisfied’, ‘very satisfied’, ‘good’, ‘very good’ or ‘excellent’. Patients were considered to be satisfied if they had reported being ‘very satisfied’ (thus ‘satisfied’ incorporates ‘very satisfied’), ‘satisfied’, ‘quite satisfied’, ‘moderately satisfied’, ‘slightly satisfied’ or ‘somewhat satisfied’, or gave a ‘positive response’ or ‘yes’ when asked if they were satisfied.

**Analysis**

Data from five, double-blind RCTs and three open-label trials that reported satisfaction after four weeks of treatment were pooled to calculate the average proportion of patients who were satisfied (weighted according to sample size) with different PPIs. Satisfaction with continuous PPI therapy was compared with satisfaction with on-demand PPI therapy. When trials also involved treatment with an H$_2$RA, this was also analyzed, as were satisfaction scores according to the presence of reflux esophagitis. The relationships between patient satisfaction, reflux symptom relief (improvement) and resolution (complete absence of symptoms), and changes in HRQoL were examined. In addition, data from each of the surveys that met the inclusion criteria were also compared, and the data from four surveys were pooled to calculate the average proportion of patients satisfied with PPI treatment.

**RESULTS**

Overall, the searches identified 152 articles published between January 1966 and August 2009 (Figure 1). After screening the title, abstract or full text, 11 relevant articles remained, and an additional nine studies were obtained from citation lists. Thus, a total of 20 articles that reported patient satisfaction with GERD medication were included in the present review.

**Patient satisfaction with treatment**

**Clinical trials:** Satisfaction with treatment was an end point in 14 clinical trials involving patients with GERD. Of these, 12 articles reported the proportion of patients who were ‘satisfied’ or ‘very satisfied’ with treatment (Table 1). One-half of the studies (8-13) started with PPI treatment given on an open-label basis, followed by randomization to on-demand or continuous treatment for patients who had achieved symptom control (defined as the complete absence of symptoms in the previous seven days or mild symptoms on a maximum of one day in the previous seven days) in the open-label arm of the study. One study followed the open-label arm with randomization to on-demand or intermittent treatment (14). One study began with a four-week or eight-week RCT, before progressing to an open-label regimen (15); three studies were only RCTs (16-18); and one trial was exclusively open label (19). Two studies reported head-to-head comparisons of satisfaction with different PPIs (ie, studies that used different PPIs in a single, randomized, parallel-group trial) (9,15).

Patient satisfaction scales had between four and seven ordered response categories, except for three studies (8,15,16) that used a ‘positive response’ or a ‘yes’ answer to record patient satisfaction. An additional two studies described the degree of satisfaction in terms of mean scores obtained from a questionnaire (20,21).

All 12 articles that reported the proportion of patients satisfied with treatment assessed satisfaction with PPI therapy, Collectively, 57% to 97% of patients were ‘satisfied’, and 56% to 100% were ‘very satisfied’. In the only two articles reporting satisfaction with H$_2$RA treatment (12,17), 79% of patients were ‘satisfied’, but only 33% to 34% were ‘very satisfied’.

Three studies reported head-to-head comparisons of satisfaction with different PPIs. In the acute phase of the trial reported by Tsai et al (9) patients received esomeprazole 20 mg once daily for two or four weeks. Asymptomatic patients then entered the maintenance phase comparing esomeprazole 20 mg on-demand (n=311) with lansoprazole...
patients with GERD. The patient satisfaction scales used in three surveys:

In contrast, a fourth trial, which was performed exclusively on patients with mild reflux esophagitis and those without, whereas patients with moderate and severe reflux esophagitis. In addition, Engels et al (8) and Pace et al (10) included only those patients 'satisfied' with their PPI treatment, weighted according to sample size, was 93% (95% CI 87% to 99%). Overall, 73% (95% CI 62% to 83%) of patients were 'very satisfied'. The average level of satisfaction from three trials with esomeprazole 40 mg once daily was 77% (95% CI 61% to 93%) (15-17); from two trials with lansoprazole at 15 mg once daily (9) and 30 mg once daily (15) was 84% (95% CI 72% to 95%); from one trial with pantoprazole 40 mg once daily was 79% (15); and from four trials with esomeprazole was 95% (95% CI 92% to 98%) (8-10,19). However, the studies had varied designs, and only the trial by Mulder et al (15) reported any head-to-head comparisons of the different PPIs; therefore, it was not possible to determine from the pooled data whether there were clinically important differences among the PPIs for the satisfaction end point.

The proportion of patients with reflux esophagitis varied among studies and, in three trials, none of the participants underwent endoscopy (Table 1) (12,14,19). It was not possible to correlate levels of satisfaction with healing of reflux esophagitis because the studies did not provide satisfaction values stratified according to these individual subgroups.

In one study, patient satisfaction with treatment effectiveness was the primary outcome of the maintenance phase (8). Patients with and without reflux esophagitis were treated with continuous esomeprazole 40 mg once daily for two, four or eight weeks. Following this, patients were randomly assigned to esomeprazole 40 mg once daily on-demand or continuous esomeprazole 20 mg once daily for three months. The proportion of patients satisfied with maintenance treatment was similar between patients with reflux esophagitis and those without (88% versus 90%) (8).

Three of the four studies that directly compared long-term (three to six months) continuous treatment with on-demand therapy found that continuous treatment yielded significantly higher rates of satisfaction (Table 1) (8,10,12). Pace et al (10) reported lower levels of patient satisfaction than the other two studies, although these studies varied in methodology: Engels et al (8) reported the proportion of patients who were 'satisfied'; and Pace et al (10) and Hansen et al (12) reported the proportion of patients who were 'satisfied' and 'very satisfied'. In addition, Engels et al (8) and Pace et al (10) included only patients with mild reflux esophagitis and those without, whereas Hansen et al (12) did not perform endoscopy; therefore, their study may have included patients with moderate and severe reflux esophagitis. In contrast, a fourth trial, which was performed exclusively on patients without reflux esophagitis (11), showed no significant difference between treatment groups in terms of the rate of satisfaction with treatment at six months (on-demand 82% versus continuous therapy 86%).

Surveys: Eight studies used surveys to assess treatment satisfaction in patients with GERD. The patient satisfaction scales used in three studies had five categories (22-24), and one study had 11 categories (25). Four studies used a dichotomous response – a positive or negative response to being 'satisfied' or 'very satisfied' (26-29).

Two studies compared patient satisfaction with prescription medication and over-the-counter (OTC) medication, and reported that patients with GERD were more satisfied with prescription medications than with OTC treatments (27,29). The prescription drugs reported by Bretagne et al (29) were PPIs (69%); antacids/alginites (46%); prokinetics (16%); and H₂RAs (5.7%), but the OTC drugs were not specified. The study by Shaker et al (27) did not specify the types of prescription or OTC medication used.

Four surveys specifically reported levels of patient satisfaction with PPIs (22-25). On average, weighted according to sample size, 82% (95% CI 73% to 90%) of patients were 'satisfied' and 62% (95% CI 48% to 75%) were 'very satisfied' with PPI treatment. The highest level of satisfaction was achieved with PPI treatment compared with H₂RAs and prokinetics (Table 2). This was illustrated by the largest survey (n=11,064), which was performed in the United States by Crawley and Schmitt (22). They found that 82% of patients were 'satisfied' with their PPI treatment and 58% were 'very satisfied'. The proportions of 'satisfied' and 'very satisfied' patients were lower for H₂RAs (77% versus 46%, respectively) and prokinetics (73% versus 42%, respectively).

Relationship between patient satisfaction, symptom resolution and HRQoL

Twelve studies reported on the relationship between patient satisfaction and either symptom resolution or HRQoL. Two articles described validation studies of two different, GERD-specific, treatment satisfaction questionnaires, and showed a significant correlation between increased satisfaction, symptom resolution and improved HRQoL (30,31). The first study used the Treatment Satisfaction Questionnaire-GERD (TSQ-G) to assess 198 patients with GERD (30). The satisfaction subscale of the TSQ-G showed significant correlations with scores obtained on the Gastrointestinal Symptom Rating Scale and Quality of Life in Reflux and Dyspepsia questionnaire (QOLRAD) (r=0.26 to r=0.66 [all P<0.0001]). The second performed an Internet-based survey of 2511 individuals taking PPIs or H₂RAs to validate the GERD Treatment Satisfaction Questionnaire (G-TSQ) (31). There were slight but significant correlations between G-TSQ scores and the presence of reflux symptoms (r=0.25 to r=0.43).

Satisfaction with improvement in reflux symptoms was compared in seven of the clinical trials reporting the percentage of patients satisfied with treatment, as shown in Figure 2. Five of these seven trials reported treatment satisfaction compared with both complete symptom resolution and symptom relief (8,9,16-18). The other two trials (12,15) reported only the complete absence of symptoms compared with satisfaction. Thus, Figure 2 depicts 15 treatment groups for symptom relief and 24 treatment groups for symptom resolution. A correlation between patient satisfaction and symptom relief is indicated at the aggregated study level (8,9,12,15-18). Overall, the proportion of satisfied patients increased as the proportion of patients with symptom relief increased. In most of the treatment groups analyzed (12 of 15), the proportion of patients satisfied with their treatment was higher than the proportion who experienced symptom relief by an average (weighted according to sample size) of 11% (95% CI 12.4% to 18.9%). Similarly, in most of the treatment groups analyzed (20 of 24), the proportion of patients satisfied with their treatment was higher than the proportion who experienced complete symptom resolution by an average (weighted according to sample size) of 10.6% (95% CI 2.2% to 19.0%).

Two studies assessed the relationship between satisfaction and a range of other quality of life factors. Degl’Innocenti et al (19) performed a multiple linear regression analysis to assess the determinants of patient satisfaction with treatment. Higher baseline vitality scores in the QOLRAD, greater severity of heartburn at baseline and greater change in QOLRAD vitality score were associated with higher levels of satisfaction (all P<0.001).
### TABLE 1
Articles reporting treatment satisfaction as an outcome in clinical trials of medications for GERD

<table>
<thead>
<tr>
<th>Author (ref)</th>
<th>Study design</th>
<th>Baseline symptoms</th>
<th>RE</th>
<th>Treatment</th>
<th>Length of treatment</th>
<th>Scale</th>
<th>Defined as</th>
<th>'Satisfied', %</th>
<th>'Very satisfied', %</th>
<th>Very satisfied, %</th>
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</thead>
<tbody>
<tr>
<td>Bate et al (17)</td>
<td>Randomized, double-blind</td>
<td>Heartburn predominant symptom ≥2 days/week</td>
<td>Present (up to grade 3)†</td>
<td>Omeprazole 20 mg once daily (n=112)</td>
<td>4 weeks</td>
<td>6-point scale</td>
<td>Satisfied*, %</td>
<td>Very satisfied, %</td>
<td>94</td>
<td>56</td>
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<td>Cimetidine 400 mg 4 times per day (n=109)</td>
<td>4 weeks</td>
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<td>79</td>
<td>33</td>
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<tr>
<td>Lind et al (16)</td>
<td>Randomized, double-blind</td>
<td>Heartburn predominant symptom ≥2 days/week</td>
<td>Absent</td>
<td>Omeprazole 20 mg once daily (n=205)</td>
<td>4 weeks</td>
<td>Response</td>
<td>Responded as satisfied</td>
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<td>Omeprazole 10 mg once daily (n=199)</td>
<td>4 weeks</td>
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<td>Placebo (n=105)</td>
<td>4 weeks</td>
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<td>31</td>
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<td>Mulder et al (15)</td>
<td>Part 1: Randomized, double-blind</td>
<td>Symptomatic</td>
<td>Present (grade 1–4)‡</td>
<td>Omeprazole 20 mg once daily (n=151)</td>
<td>8 weeks</td>
<td>Positive response</td>
<td>Positive answer</td>
<td>–</td>
<td>79</td>
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<td>Lansoprazole 30 mg once daily (n=154)</td>
<td>8 weeks</td>
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<td>Placebo (n=150)</td>
<td>8 weeks</td>
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<td>86</td>
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<td>Part 2: Open-label</td>
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<td>Omeprazole 20 mg once daily (n=156)</td>
<td>3 months</td>
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<td>79</td>
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<td>Omeprazole 10 mg once daily (n=370)</td>
<td>3 months</td>
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<td></td>
<td></td>
<td>91</td>
<td>–</td>
</tr>
<tr>
<td>Engels et al (8)</td>
<td>Part 1: Open-label</td>
<td>Moderate heartburn ≥3 days/week</td>
<td>Present (LA grade A or B) or absent</td>
<td>Esomeprazole 40 mg once daily (n=1170)</td>
<td>2 weeks</td>
<td>Not specified</td>
<td>Responded as satisfied</td>
<td>–</td>
<td>90</td>
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<td>4 weeks</td>
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<td>92</td>
<td>–</td>
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<td></td>
<td>Part 2: Randomized, single-blind</td>
<td>Patients relieved of symptoms in part 1</td>
<td></td>
<td>Esomeprazole 20 mg once daily continuously (n=528)</td>
<td>3 months</td>
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<td>90</td>
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<td>Esomeprazole 40 mg on-demand (n=524)</td>
<td>3 months</td>
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<td>88</td>
<td>–</td>
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<tr>
<td>Tsai et al (9)</td>
<td>Part 1: Open-label</td>
<td>Heartburn predominant symptom ≥4 days/week</td>
<td>Absent</td>
<td>Esomeprazole 20 mg once daily (n=774)</td>
<td>2 weeks</td>
<td>7-point scale</td>
<td>1–4</td>
<td>1–2</td>
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<td>96</td>
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<td>Part 2: Randomized, single-blind</td>
<td>Patients relieved of symptoms in part 1</td>
<td></td>
<td>Esomeprazole 20 mg on-demand (n=311)</td>
<td>4 weeks</td>
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<td>93</td>
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<td>3 months</td>
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<td>93</td>
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<td></td>
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<td>Lansoprazole 15 mg once daily (n=311)</td>
<td>6 months</td>
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<td></td>
<td></td>
<td>92</td>
<td>–</td>
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<tr>
<td>Meineche-Schmidt et al (14)</td>
<td>Part 1: Open-label</td>
<td>Heartburn predominant symptom (with or without acid regurgitation) ≥3 days/week</td>
<td>Not specified</td>
<td>Esomeprazole 40 mg once daily (n=1583)</td>
<td>4 weeks</td>
<td>7-point scale</td>
<td>1–4</td>
<td>1–2</td>
<td>–</td>
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<td></td>
<td>Part 2: Randomized</td>
<td>Patients relieved of symptoms in part 1</td>
<td></td>
<td>Esomeprazole 20 mg on-demand (n=453)</td>
<td>6 months</td>
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<td>96</td>
<td>80</td>
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<td>Esomeprazole 40 mg intermittent 2 weeks (n=449)</td>
<td>6 months</td>
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<td>96</td>
<td>74</td>
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<td>Esomeprazole 40 mg intermittent 4 weeks (n=445)</td>
<td>6 months</td>
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<td>97</td>
<td>84</td>
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<tr>
<td>Pace et al (10)</td>
<td>Part 1: Open-label</td>
<td>Symptoms of GERD Absent or mild</td>
<td></td>
<td>Esomeprazole 40 mg once daily (n=5502)</td>
<td>4 weeks</td>
<td>7-point scale</td>
<td>1–4</td>
<td>1–2</td>
<td>96</td>
<td>64</td>
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<tr>
<td></td>
<td>Part 2: Randomized, double-blind</td>
<td>Patients with mild symptoms or relieved of symptoms in part 1</td>
<td></td>
<td>Esomeprazole 20 mg on-demand (n=2637)</td>
<td>6 months</td>
<td></td>
<td></td>
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<td>–</td>
<td>60</td>
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<tr>
<td>Degl’Innocenti et al (19)</td>
<td>Open-label</td>
<td>Diagnosed moderate-to-severe GERD, symptomatic ≥3 months</td>
<td>Present or absent</td>
<td>Esomeprazole 40 mg once daily (n=217)</td>
<td>4 weeks</td>
<td>7-point scale</td>
<td>1–3</td>
<td>1–2</td>
<td>90</td>
<td>75</td>
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</tbody>
</table>

*Continued on next page*
Beyer-Hansen*Includes patients who were very or completely satisfied; †Grade 0 = Normal, 1 = No macroscopic erosions, 2 = Isolated erosions, 3 = Confluent erosions, 4 = Frank professional symptoms) and/or antacids/alginates (46% versus 55%), and less PPIs (69% of patients with frequent symptoms versus 37% for occasion treatments (75% versus 64% [P<0.001]), which were primarily H2RAs (6% versus 11%) or prokinetics (16% versus 15%).

PPIs are superior to H2RAs for symptom control and healing of reflux esophagitis (32). PPIs are also effective when given daily or on-demand in patients with GERD without reflux esophagitis and in those with uninvestigated GERD (33).

**DISCUSSION**

Although the treatment of GERD has three main goals – symptom control, the healing of reflux esophagitis and the prevention of complications – symptom control may be the most important from the patient’s perspective. Long-term management is often required to sustain symptom control, which may be continuous maintenance treatment (daily dosing of acid suppressive therapy) or on-demand therapy (with medication taken only on the days that symptoms occur, until the symptoms subside). There is convincing evidence in the literature that PPIs are superior to H2RAs for symptom control and healing of reflux esophagitis (32). PPIs are also effective when given daily or on-demand in patients with GERD without reflux esophagitis and in those with uninvestigated GERD (33).

**DISCUSSION**

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Patient satisfaction with treatment is a valuable outcome because it is a major determinant of the patient’s willingness to continue taking the required medication. It is influenced by many factors, including treatment regimen, general well-being of the patient, the bedside manner of the physician, and the quality of communication between the patient and their physician (34). The present review has identified an association between overall symptom relief and patient satisfaction, and between patient satisfaction and improvement in HRQoL. Similar associations between treatment satisfaction, treatment efficacy and HRQoL have been observed in other chronic diseases such as diabetes mellitus (35) and osteoarthritis (36).
The correlation between HRQoL and satisfaction is a notable finding of the present review because patient satisfaction can be determined by posing a single question, unlike multidimensional instruments designed to understand treatment effects on HRQoL. Although HRQoL instruments are valuable secondary outcome measures in clinical trials, they are time consuming to administer and, hence, not practical in everyday practice. Instead of using an HRQoL questionnaire, perhaps a single question about satisfaction could be used in addition to questions about the control of specific symptoms. The present systematic review demonstrates that the highest levels of patient satisfaction with GERD treatment are observed for PPIs compared with other GERD medications. Both of the RCTs that compared PPIs with H2RAs (12,17) showed superior levels of satisfaction with PPIs. No RCTs compared PPIs with prokinetic agents, although the survey data showed that satisfaction levels for PPIs were higher than both H2RAs and prokinetics. This is in agreement with trial efficacy data comparing PPIs, H2RAs and prokinetics reviewed by others (37,38). Thus, this suggests that higher patient satisfaction correlates with the greater acid control provided by PPIs than by other medications.

The data support the concept that when patients achieve complete or near complete control of their GERD symptoms, their satisfaction with treatment is high. Although PPIs were shown to decrease the frequency and severity of heartburn, only one trial specifically investigated whether there was a correlation between patient satisfaction after treatment and the severity of heartburn at baseline (19). This study did indeed find that these two factors were correlated. In addition, one survey documented a negative correlation between satisfaction and the frequency of heartburn and/or regurgitation at baseline (29). However, some patients experienced residual symptoms while on treatment. Moreover, data from several RCTs suggest that symptom control and patient satisfaction are lower with on-demand therapy than with continuous maintenance therapy, suggesting that satisfaction with PPI therapy is reduced in the presence of residual symptoms. This would be a justification for adjusting patient medication, for example, by increasing the dose of PPIs (39,40). Partial response to PPIs may also indicate that factors other than acid reflux are contributing to symptoms. These include functional dyspepsia (41), weakly alkaline or weakly acidic reflux (42,44), esophageal hypersensitivity or a combination of these factors (45).

Although surveys can be less reliable sources of data than RCTs, they provide insight into the patient’s perspective of treatment in real-life clinical practice. In surveys, the proportion of patients ‘satisfied’

### TABLE 2

<table>
<thead>
<tr>
<th>Author (reference)</th>
<th>Study population</th>
<th>Population, n</th>
<th>Receiving treatment</th>
<th>Scale</th>
<th>‘Satisfied’</th>
<th>‘Very satisfied’</th>
<th>Treatment</th>
<th>Satisfied, %</th>
<th>Very or completely satisfied, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crawey and Schmidt (22)</td>
<td>Individuals with chronic heartburn</td>
<td>11,064</td>
<td>11,064</td>
<td>11,064</td>
<td>5-point scale (totally satisfied to totally unsatisfied)</td>
<td>1–2</td>
<td>1</td>
<td>PPI</td>
<td>82</td>
</tr>
<tr>
<td>Louis et al (26)</td>
<td>General population</td>
<td>2000</td>
<td>568</td>
<td>335</td>
<td>–</td>
<td>Responded as satisfied</td>
<td>–</td>
<td>Antacids (44%)</td>
<td>H2RAs (7.8%)</td>
</tr>
<tr>
<td>Robinson et al (25)</td>
<td>Individuals taking PPIs</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>11-point scale (extremely satisfied)</td>
<td>–</td>
<td>0</td>
<td>PPI</td>
<td>–</td>
</tr>
<tr>
<td>Shaker et al (27)</td>
<td>Individuals with at least weekly heartburn</td>
<td>1000</td>
<td>791</td>
<td>553</td>
<td>(of those with nighttime heartburn)</td>
<td>–</td>
<td>Responded as completely satisfied</td>
<td>Prescription (details of specific medication not reported)</td>
<td>OTC</td>
</tr>
<tr>
<td>Bommelaer et al (28)</td>
<td>Primary care patients</td>
<td>8459</td>
<td>8459</td>
<td>8459</td>
<td>–</td>
<td>Responded as satisfied</td>
<td>–</td>
<td>PPI (98%)</td>
<td>Prokinetics (4%), Antacids/alginate (5%)</td>
</tr>
<tr>
<td>Bretagne et al (29)</td>
<td>General population</td>
<td>8000</td>
<td>419</td>
<td>331</td>
<td>–</td>
<td>Responded as completely or moderately satisfied</td>
<td>Responded as completely satisfied</td>
<td>Prescription (69% PPI, 46% antacid/alginate, 16% prokinetics and 5.7% H2RAs) or OTC</td>
<td>PPI</td>
</tr>
<tr>
<td>Dorval et al (23)</td>
<td>Primary care patients GERD or reflux esophagitis diagnosis using prescription PPIs</td>
<td>5326</td>
<td>5326</td>
<td>5326</td>
<td>5-point scale</td>
<td>–</td>
<td>Good or excellent</td>
<td>PPI</td>
<td>72</td>
</tr>
<tr>
<td>Chey et al (24)</td>
<td>GERD or heartburn</td>
<td>1347</td>
<td>1347</td>
<td>617</td>
<td>5-point scale</td>
<td>1–2</td>
<td>1</td>
<td>Prescription PPI; 42% supplemented PPIs with OTC or other prescription GERD medication</td>
<td>73</td>
</tr>
</tbody>
</table>

*Reported as an overall proportion for all treatment groups combined. H2RA Histamine type 2 receptor antagonist; OTC Over the counter; PPI Proton pump inhibitor
The patient's evaluation of their treatment is becoming increasingly important to medical care, particularly for the management of chronic disease. Future research, with a focus on uniformity in the measurement of satisfaction, and further investigation into the relationship between satisfaction and other clinical endpoints, could contribute to improved patient care and long-term treatment success.

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