

3 (very distressed). We conducted a principal components analysis (PCA) of baseline responses. Overall and subscale scores were computed as average distress scores across relevant symptoms. We assessed internal consistency reliability using Cronbach's alpha. We assessed reproducibility by evaluating the intraclass correlation coefficient (ICC) between baseline and follow-up scores among patients reporting no change in overall symptom severity ( $n = 45$ ). We compared mean GSAS scores across subgroups of patients with varying levels of symptom severity at baseline and varying degrees of heartburn relief at follow-up using  $t$ -tests.

**RESULTS:** The mean (sd) age of the 278 patients was 43.6 (11.9) years, and most were female (65%) and Caucasian (77%). The PCA and reliability estimates suggested three subscales: gastrointestinal symptoms (GI), regurgitation and heartburn (RHB), and upper respiratory manifestations (URM). The subscale and overall scores were reliable (Cronbach's alpha, ICC): GI = 0.81, 0.81; RHB = 0.79, 0.80; URM = 0.73, 0.72; Overall = 0.87, 0.85. Mean baseline overall and subscale scores were at least 10% poorer among patients reporting greater symptom severity ( $p < 0.01$ ). Patients reporting complete heartburn relief at follow-up reported 13% to 16% greater improvements in overall, GI, and RHB scores than patients who did not experience complete relief ( $p < 0.001$ ).

**CONCLUSIONS:** This study confirmed the reliability and validity of the overall GSAS score. Further, researchers may want to consider analyzing the GI, URM, and RHB subscale scores as secondary indicators of symptom distress.

#### **GASTROINTESTINAL DISEASES/DISORDERS— Health Policy Presentations**

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#### **USE OF NONSTEROIDAL ANTI- INFLAMMATORY AGENTS IN PATIENTS AT HIGH RISK FOR GASTROINTESTINAL SIDE EFFECTS IN A VETERANS AFFAIRS MEDICAL CENTER**

Harris CL, Raisch DW

VA Cooperative Studies Program, Albuquerque, NM, USA

The risk of significant injury to the gastrointestinal (GI) tract from nonsteroidal anti-inflammatory drugs (NSAIDs) has been well established. Patients concurrently using warfarin or who have had a prior serious hospital GI event are considered to be at high risk. In 2000, the Veterans Affairs (VA) implemented treatment criteria for the use of NSAIDs including cyclooxygenase-2 (COX-2) inhibitors. The high-risk criteria-based therapy is salicylate, non-selective NSAID plus a proton pump inhibitor (PPI), high-dose famotidine, or misoprostol or a COX-2 inhibitor.

**OBJECTIVES:** The purpose of this study was to assess the level of criteria-based NSAID prescribing in high risk patients at the New Mexico VA Healthcare System.

**METHODS:** Patients with concurrent prescriptions for an NSAID and warfarin or previous hospital GI event were identified utilizing VA databases. Current therapy was compared to criteria-based therapy to assess level of implementation.

**RESULTS:** Out of 7,625 NSAID users, 184 patients were identified: concurrent warfarin ( $n = 98$ ), prior hospital GI event ( $n = 84$ ), and concurrent warfarin with a previous hospital GI event ( $n = 2$ ). Fifty-eight percent were over the age of 65. The NSAIDs prescribed were ibuprofen (42.4%), naproxen (20.1%), etodolac (16.8%), indomethacin (8.2%), salsalate (5.4%), piroxicam (3.3%), COX-2 inhibitors (2.1%), and sulindac (1.6%). Criteria-based therapy was prescribed for 22% of patients. Only 12% of warfarin patients and 33% of previous hospital GI event patients were prescribed criteria-based therapy. Of the patients prescribed a non-selective NSAID ( $n = 139$ ), there were only 19% prescribed a criteria-based GI protective medication.

**CONCLUSIONS:** In this study, few patients, at high-risk for GI complications due to NSAIDs, received criteria-based therapy.

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#### **ASSESSMENT OF USE OF THE VETERANS AFFAIRS' CRITERIA FOR NONSTEROIDAL ANTI-INFLAMMATORY AGENTS**

Harris CL, Raisch DW

VA Cooperative Studies Program, Albuquerque, NM, USA

The risk of significant injury to the gastrointestinal (GI) tract from nonsteroidal anti-inflammatory drugs (NSAIDs) has been well established. The Veterans' Affairs (VA) implemented treatment criteria for the use of NSAIDs including the new class of drugs, cyclooxygenase-2 (COX-2) inhibitors. These criteria utilize a self-administered Gastrointestinal Risk Assessment Tool (GI Score), developed from the Arthritis, Rheumatism, and Aging Medical Information System (ARAMIS) database, to assess risk. This tool generates a composite score used to predict the 1-year risk level, level 1 (no risk) to level 4 (substantial risk), for the potential of an NSAID-associated GI event.

**OBJECTIVES:** The purpose of this study was to assess the risk level and the level of implementation of the VA criteria.

**METHODS:** The GI score was used to assess the patient's risk level calculated on the basis of data from VA demographic, prescription, hospitalization, clinic visits, and active problem lists databases. Current therapy was compared to criteria-based therapy to assess level of implementation.

**RESULTS:** There were 7,625 NSAID users in the New Mexico VA Healthcare System: 86 previous hospitalized GI event patients, 100 concurrent warfarin therapy patients, 223 corticosteroid therapy patients, and 205 rheumatoid arthritis patients. Thirty-six percent of the VA patients were over the age of 65. The most commonly