Health Care for Chronic Rhinosinusitis (CRS) Symptoms—A Cross-Sectional, Population-Based Survey of US Adults Meeting Symptom Criteria for CRS

BACKGROUND

• CRS and without nasal polyps (CRSsNP and CRSNP) is a common and serious chronic inflammatory condition with diagnostic symptoms including nasal congestion/obstruction, rhinitis, facial pain/pressure, and reduction/loss of smell.

• The symptoms of CRS often extend beyond the sinonasal region. Extraneous manifestations include fatigue, body pain, problems with sleep, and decreased activity levels.

• The burden of disease attributable to CRS with and without nasal polyps is substantial. CRS has been shown to impair quality of life (QoL) to a degree similar to other serious illnesses (COPD, CHD, and Parkinson’s); the overall annual economic burden of CRS in the United States was estimated at $22 billion (direct and indirect costs) in 2016.1,2

• The estimated prevalence of CRS in the U.S. adult population is 25–40 million and is often derived from administrative health care databases, where data are collected for billing purposes rather than from primarily research patients.

• Epidemiologic research using administrative databases may be subject to surveillance bias and may have unknown limitations, including overrepresentation (or underrepresentation) of patients with financial incentives (or disincentives) and other omission of systematic bias. Furthermore, these databases often lack data (e.g., patient QoL) and may have limits on generalizability due to homogenous populations.3,4

• This population-based survey was conducted to better characterize the prevalence and burden of disease in the US adult population with symptoms of CRS, including CRSsNP and CRSNP.

METHODS

• Population survey of 10,336 US adults was randomly drawn from a representative general panel of 4.3 million. Patient selection was not weighted based on any specific patient characteristic or labeled any subpopulation.

• Panel participants were sourced through a variety of approaches, including webcam sites, e-mail, phone, online communities, and social networks.

• Information collected included nasal symptoms (including CRS diagnostic symptom criteria), frequency, duration, and severity/burden of nasal symptoms and health care use and treatments.

Patient-Reported Data Included

• General health symptoms

• Health care utilization in past 12 months

• Physician-diagnosed conditions

• Duration of nasal symptoms

• Presence or absence of diagnosed nasal polyps

• Participants reporting severely severe and chronic symptoms were categorized into CRS subgroups based on self-reported symptoms at the onset and for at least 6 of the 4 defining CRS symptoms, with duration of more than 8 consecutive weeks, with congestion/obstruction or rhinorrhea required to be one of the symptoms.

• Survey respondents were closely representative of the US adult population in terms of geographic distribution (including US climate zones), socioeconomic status, age, education, and controlled comorbidities (hypertension/diabetes, asthma, depression, and allergy) when compared to the American Community Survey (US Census Bureau).

• Approximately 11.5% of respondents self-reported symptoms meeting diagnostic symptom criteria for CRS and were defined as CRS patients for this analysis. Of these respondents, 9.0% reported having received a diagnosis of nasal polyposis (Figure 1).

RESULTS

Figure 1. Prevalence of CRSsNP and Moderate-Severe CRSNP

• The frequency of defining CRS symptoms was similar in CRSsNP and CRSNP except that patients with polyps and those with severe CRSNP reported higher rates of facial pain (34.0%/40.3%) and loss of smell (14.7%/9.6%). Nasal congestion/obstruction (54%/07%) and drainage (85%/52%) were the most frequently reported core symptoms.

• Disease exacerbations (flare-ups) were reported to be frequent (CRSsNP: 75%; CRSNP: 76%). Only 54.6% believed their symptoms were controlled, and 75% were concerned about flare-ups.

• CRS symptoms adversely impact multiple areas of daily life, as reported by patients, despite available treatment options. Advance effects were greater on sleep, mood, and work performance or skill and on sex life, social activities, exercise, and recreation (Figure 4).

CONCLUSIONS

• A large majority (>90%) of patients with CRSsNP (87%), severe CRSNP (86%), or moderate CRSNP (83%) using intranasal corticosteroids (INS) report being satisfied with the inadequate symptom relief produced by their current INS spray.

• Many CRS sufferers who use conventional INS report experiencing loss of drug due to drip out of the nose (26–58%) or down the throat (43–65%) (Figure 6).

• The drug delivery of INS is a major issue, and INS are used intermittently or not at all by many suffering with CRS, which can adversely affect QoL and patient satisfaction.

• The inability to deliver INS to the target sites of the nasal passages indicates a need to improve INS delivery, which can be achieved by developing new delivery systems for INS, such as novel nasal sprays, and new INS formulations.