

# Defining and diagnosing burning mouth syndrome

## Perceptions of directors of North American postgraduate oral medicine and orofacial pain programs

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**T**he International Association for the Study of Pain<sup>1</sup> (IASP) defines burning mouth syndrome (BMS) as a burning pain in the tongue or other oral mucous membrane persisting for at least four months and associated with normal oral mucosa and normal laboratory findings.<sup>2,3</sup> The IASP diagnostic criteria are as follows: burning sensation in the tongue or other parts of the oral mucosa, usually bilateral and associated with dysgeusia, dry mouth and denture intolerance. The International Headache Society<sup>4</sup> (IHS) described BMS as an intraoral burning sensation for which no medical or dental cause can be found. The IHS further noted that pain may be confined to the tongue (glossodynia) with associated symptoms that include subjective dryness of the mouth (xerostomia), paresthesia and altered taste. The IHS provided the following diagnostic criteria for BMS: pain in the mouth present daily and persisting for most of the day, oral mucosa of normal appearance and exclusion of local and

### ABSTRACT

**Background.** The authors conducted a study to ascertain participants' perceptions of and confidence in their responses regarding the definition and diagnosis of burning mouth syndrome (BMS).

**Methods.** The authors developed an eight-question questionnaire with input from several experienced clinicians in the fields of oral medicine (OM) and orofacial pain (OFP) and sent it to directors (n = 20; OM = 10; OFP = 10) of accredited postgraduate training programs in North America. They used descriptive statistics to analyze the results.

**Results.** The response rate was 65 percent (n = 13; OM = 6; OFP = 7). Participants reported a mean of 7.3 cases of BMS in any given three-month period, with 89 percent of these cases managed within the programs. They identified, with a high degree of confidence, overall criteria for establishing a definition and definitive diagnosis of BMS.

**Conclusions.** There were multiple similarities among participants' responses regarding the elements to be included in the definition and diagnosis of BMS.

**Practical Implications.** These data provide information on current status of definitions and diagnostic guidelines and may assist in development of future consensus statements on BMS that incorporate additional geographical representation and appropriate methodology.

**Key Words.** Burning mouth syndrome; diagnosis; respondents' perceptions; confidence rating scale.

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systemic diseases. In light of these somewhat imprecise definitions and descriptions, it is easy to understand the challenge facing health care practitioners when evaluating patients with BMS and the barriers to achieving an accurate and reliable diagnosis.

The prevalence of BMS is reported to be between 0.7 percent and 5.0 percent of the general population, depending on the methodology (survey or clinical assessment) being used in and the geographical setting of the study.<sup>5-8</sup> BMS is reported most commonly by women in the fifth to seventh decade<sup>3,9,10</sup> and usually manifests in a period between three years before and 12 years after the onset of menopause.<sup>3</sup> It rarely manifests before the age of 30 years.<sup>11,12</sup> Investigators report female-to-male ratios ranging from 3:1 to 16:1.<sup>3,8,13-15</sup> The pain commonly occurs bilaterally, involving the anterior two-thirds of the tongue, followed by the dorsum and lateral borders of the tongue, the anterior aspect of the hard palate and the labial mucosa of the lips. The burning pain also may occur simultaneously at multiple sites.<sup>3,11,14-18</sup> Other symptoms that manifest with the burning complaint include taste alterations,<sup>3,19</sup> often described as the presence of a constant foul, bitter or metallic taste sensation, which may be equally as disturbing as or more disturbing than the oral burning pain itself.<sup>5</sup> Intriguingly, there are conflicting objective data regarding decreased salivary flow rates in people with BMS.<sup>20-23</sup> Nevertheless, findings in some studies have shown qualitative changes in salivary composition.<sup>21,23,24</sup>

Several classification schemes have been proposed to assist in the diagnosis of BMS. One such classification, proposed by Lamey<sup>25</sup> and Lamey and Lewis,<sup>26</sup> contains three subtypes according to variations in pain intensity over 24 hours. This classification has not been validated and does not appear to be widely accepted by the scientific community. Jaaskelainen<sup>27</sup> proposed three distinct subclasses that were based on neurophysiological, psychophysical and functional imaging studies. Gremeau-Richard and colleagues,<sup>28</sup> using a double-masked crossover design, reported there to be two distinct groups of people with BMS, who could be classified on the basis of the location of neuropathic changes (that is, mediated by the peripheral or the central nervous system). A more pragmatic clinical approach is to separate BMS into two distinct categories: primary (essential or idiopathic) BMS, in which there is a lack of evidence of any other disease, and secondary BMS, in which an oral burning sensation is identified secondary to other clinical abnormalities or to systemic condi-

tions such as anemia, diabetes, thyroid disease or gastroesophageal reflux disorder. Therefore, the clinician bases a diagnosis of BMS on clinical presentation and on the exclusion of local and systemic factors.

To date, there is a lack of qualitative and quantitative analyses regarding clinicians' understanding of the diagnosis of BMS. We approached these limitations by soliciting opinions (via a confidence rating scale [CRS]) from experienced health care practitioners who treat BMS. This technique engages the resources of all participants and results in an enhanced decision-making ability among members of the group with regard to resolution of the clinical problem addressed.<sup>29</sup> This process has been used with an array of oral health issues, including decision support for diagnosis, and has led to improved outcomes for the conditions under investigation (such as outcomes assessment for periodontal therapy, referral criteria in pediatric dentistry and indications for use of radiography).<sup>30</sup>

Our aim in this study was to gather data about the perceptions of a group of oral medicine and orofacial pain training program directors from the United States and Canada in terms of the definition of BMS and the various factors and variables used in, and assisting with, the determination of its definitive diagnosis.

## METHODS

We designed a structured questionnaire with input from four experienced clinicians in oral medicine and orofacial pain (two from each field) who did not participate in the study directly. (The study protocol was approved by an accredited institutional review board.) Most questions were open-ended to facilitate variability of responses. This broad approach captured the most information regarding the respondent's opinion without limiting answers or leading him or her. The only question with designated response categories involved specific diagnostic testing for conditions associated with oral burning sensation that excluded BMS. We derived these categories from the current literature on BMS and the knowledge of the four experienced clinicians.

The questionnaire (Figure) contained eight questions pertaining to the diagnosis of BMS,

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**ABBREVIATION KEY.** **BMS:** Burning mouth syndrome. **CRS:** Confidence rating scale. **IASP:** International Association for the Study of Pain. **IHS:** International Headache Society. **OPF:** Orofacial pain. **OM:** Oral medicine.

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