

Perspectives on real-world management of stomatitis/oral mucositis (S/OM) from oncologists with experience treating patients with metastatic non-small cell lung cancer (mNSCLC) and metastatic breast cancer (mBC)

Nguyen M^{1*}, Shah R¹, Apple J², John W³⁺, Lucht S³, Pathak P³, Allen-Van Doren BA³, Ahlquist M³, Laney J³, Feinberg B³

*Presenting author

+Affiliation at time of study

¹Daiichi Sankyo, Basking Ridge, New Jersey, United States; ²AstraZeneca, Gaithersburg, Maryland, United States; ³Cardinal Health, Dublin, Ohio, United States

PLAIN-LANGUAGE SUMMARY

Why did we perform this research?

Stomatitis/oral mucositis (S/OM) is a common adverse event experienced during systemic cancer treatment that may negatively affect patient quality of life (e.g., pain, difficulty swallowing) and treatment outcomes. While S/OM management guidelines are available, S/OM guidelines for oncology treatments do not currently include management for targeted therapy-associated S/OM, and literature characterizing real-world management of S/OM is limited.

How did we perform this research?

This survey on awareness of S/OM guidelines, perceived risk factors for S/OM development, and barriers to S/OM care was completed by oncologists in the Cardinal Health Oncology Provider Extended Network. Participating oncologists had experience treating/managing advanced/metastatic breast and lung cancer patients who experienced S/OM.

What were the findings of this research and what are the implications?

Despite the occurrence of S/OM in their patients, a majority of oncologists lacked awareness of any published S/OM management guidelines. Key barriers to S/OM management noted by oncologists include knowledge of and access to S/OM prophylaxis and management guidelines, as well as challenges with patient adherence and access to other healthcare providers. It is important to provide oncologists treating patients with cancer with access to educational resources to assist them in overcoming barriers and to enhance patient care for S/OM.

BACKGROUND

- Stomatitis/oral mucositis (S/OM) is a common adverse event associated with systemic cancer treatment for advanced or metastatic non-small cell lung cancer (mNSCLC) and advanced or metastatic breast cancer (mBC), with up to half of patients receiving chemotherapy for solid tumors developing S/OM^{1,2}
- S/OM is associated with pain, difficulty swallowing, and reduced quality of life for patients, and may lead to dose modifications and/or premature therapy termination¹
- While guidelines on S/OM management have been published (e.g., those by the Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology [MASCC/ISOO]³), these guidelines do not address all treatments used in mNSCLC and mBC (e.g., targeted therapy; antibody-drug conjugate therapy) and real-world evidence is limited on the implementation of these guidelines in oncology practices, particularly in the community setting
- The goal of this study was to document oncologist awareness of S/OM guidelines, perceived risk factors for S/OM development, and barriers to S/OM care to improve management of S/OM

METHODS

- U.S. oncologists from the Cardinal Health Oncology Provider Extended Network (OPEN), who had experience managing antineoplastic therapy-induced S/OM in patients with mNSCLC and mBC, were surveyed via an electronic survey
- The survey collected data on demographics, awareness of S/OM management guidelines, and oncologists' perceptions of risk factors and barriers to management
- Providers were required to fulfill the following inclusion criteria to participate:
 - History of treating patients with mNSCLC or mBC who had experienced systemic treatment-related S/OM
 - Managed/treated at least 10 patients with mNSCLC or mBC in the past year
 - Had at least 3 years of post-fellowship experience treating patients with NSCLC or BC
 - Spent at least 50% of their time on patient care as opposed to research or other activities
- Physician demographics and perspectives on S/OM risk factors and management were summarized using descriptive statistics
- All analyses were performed using SAS v9.4 (SAS Institute, Cary, NC, USA)

RESULTS

Physician and Practice Characteristics

- A total of 31 physicians participated in the study and were largely (23/31; 74.2%) from non-academic community practices in the U.S. (**Table 1**)
- The largest proportion of oncologists were in Southern states (11/31; 35.5%)
- Most providers specialized in medical oncology (28/31; 90.3%) and hematology (16/31; 51.6%), with a small number of radiation oncologists participating (3/31; 9.7%)
- All oncologists had experience managing patients with mNSCLC who experienced treatment-related S/OM and most (29/31; 93.5%) had experience managing treatment-related S/OM in patients with mBC

Table 1. Provider and practice characteristics

	All Providers (N=31)
Practice setting, n (%)	
Community practice	23 (74.2)
Academic medical center	5 (16.1)
Affiliated teaching hospital	3 (9.7)
U.S. region of practice, n (%)	
Northeast (CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT)	8 (25.8)
Midwest (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI)	5 (16.1)
South (AL, AR, DC, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV)	11 (35.5)
West (AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY)	7 (22.6)
Practice setting, n (%)	
Urban	17 (54.8)
Suburban	11 (35.5)
Rural	3 (9.7)
Years in practice, continuous	
Mean (SD)	16.4 (6.4)
Medical specialty, n (%)*	
Medical oncology	28 (90.3)
Hematology	16 (51.6)
Radiation oncology	3 (9.7)
Disease-related experience, n (%)*	
Advanced or metastatic NSCLC	31 (100.0)
Advanced or metastatic BC	29 (93.5)
Estimated <u>number</u> of patients with mNSCLC treated in past year, among providers who manage patients with mNSCLC	
Mean (SD)	54.1 (42.5)
Estimated <u>percentage</u> of patients with mNSCLC treated in past year who experienced S/OM, among providers who manage patients with mNSCLC (%)	
Mean (SD)	35.2 (17.7)
Estimated <u>number</u> of patients with mBC treated in past year, among providers who manage patients with mBC	
Mean (SD)	48.4 (24.3)
Estimated <u>percentage</u> of patients with mBC treated in past year who experienced S/OM, among providers who manage patients with mBC (%)	
Mean (SD)	34.9 (14.5)

*Multiple selections allowed

Guideline Awareness & Training

- Less than half of oncologists (12/31; 38.7%) reported being aware of any published S/OM management strategies or guidelines (**Table 2**)
- Among the oncologists who were aware of published guidelines (12/31), the majority followed guidelines according to drug labels (7/12; 58.3%) while 25.0% (3/12) reported following MASCC/ISOO guidelines³
- Few providers (4/31; 12.9%) reported having any practice-specific S/OM management protocols and few reported any type of S/OM training at their practices other than self-directed training

RESULTS

Table 2. Awareness of S/OM guidelines and practice-level training

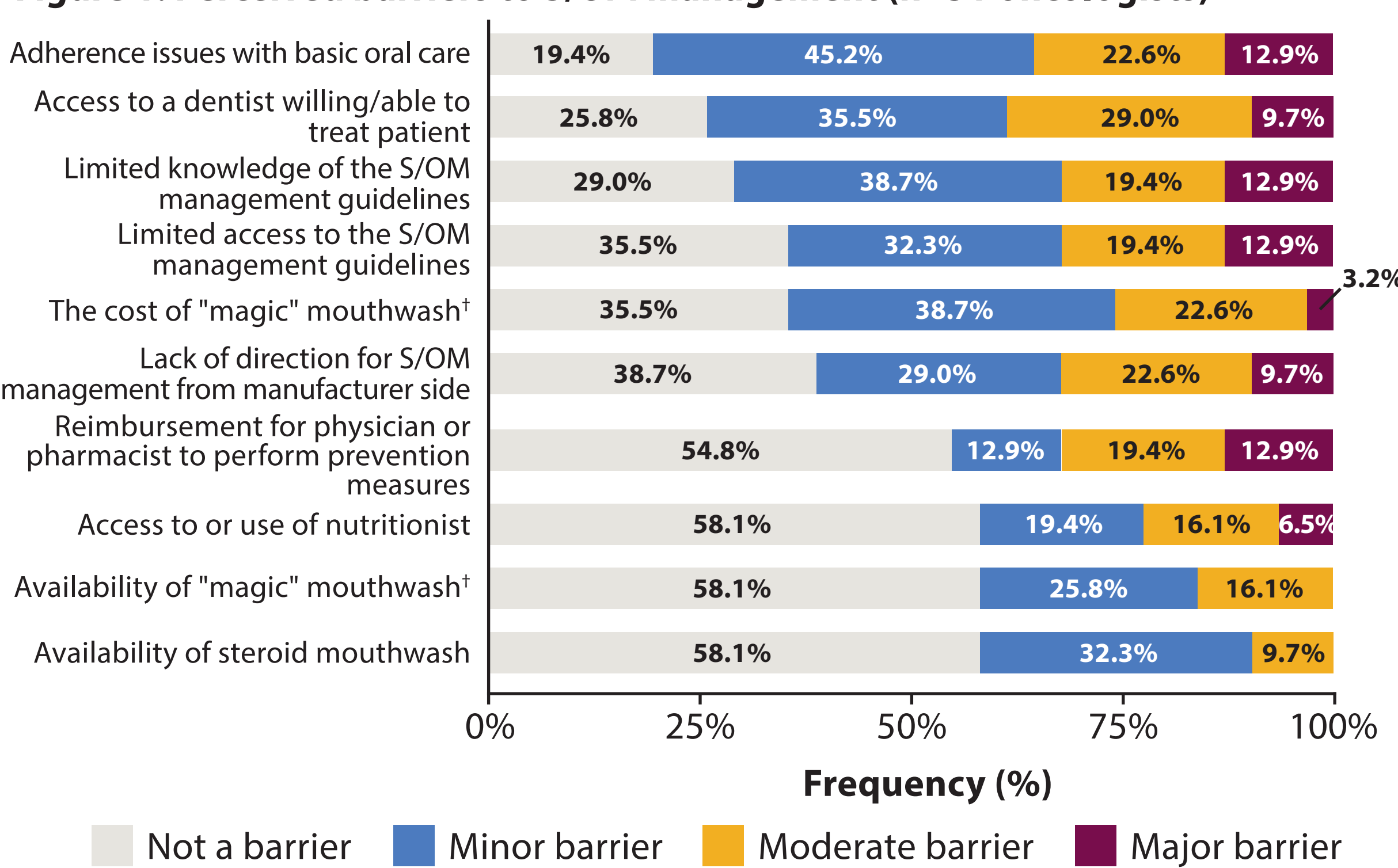
	All Providers (N=31)
Awareness of any published S/OM management strategies or guidelines, n (%)	
Yes	12 (38.7)
No	19 (61.3)
S/OM guidelines followed, among providers aware of S/OM management guidelines, n (%)*	
According to drug label	7 (58.3)
Institutional	2 (16.7)
International guidelines	1 (8.3)
MASCC/ISOO	3 (25.0)
Other	2 (16.7)
None of the above	1 (8.3)
Presence of practice-specific S/OM protocols/guidelines in the provider's practice, n (%)	
Yes	4 (12.9)
No	27 (87.1)
S/OM-dedicated training received by provider, n (%)*	
In-house training	5 (16.1)
Journal resources	7 (22.6)
Pharmaceutical company provided training	3 (9.7)
Self-directed training	23 (74.2)
None of the above	3 (9.7)

*Multiple selections allowed

Perceived Barriers to S/OM Management

- Limited knowledge of S/OM guidelines and limited access to S/OM guidelines were each identified as moderate or major barriers to S/OM management by 32.3% (10/31) of oncologists (**Figure 1**)
- More than half of oncologists also cited that patient adherence to basic oral care, patient access to other clinical experts, cost of "magic" mouthwash[†], and lack of direction for S/OM management from manufacturers were also barriers to S/OM management
- Most oncologists found availability of "magic" mouthwash[†] to be a minor barrier, but among those who considered it as a moderate barrier 80.0% (4/5) practiced in the West region of the US. Steroid mouthwash availability posed little to no barrier to S/OM management for most oncologists

Figure 1. Perceived barriers to S/OM management (n=31 oncologists)

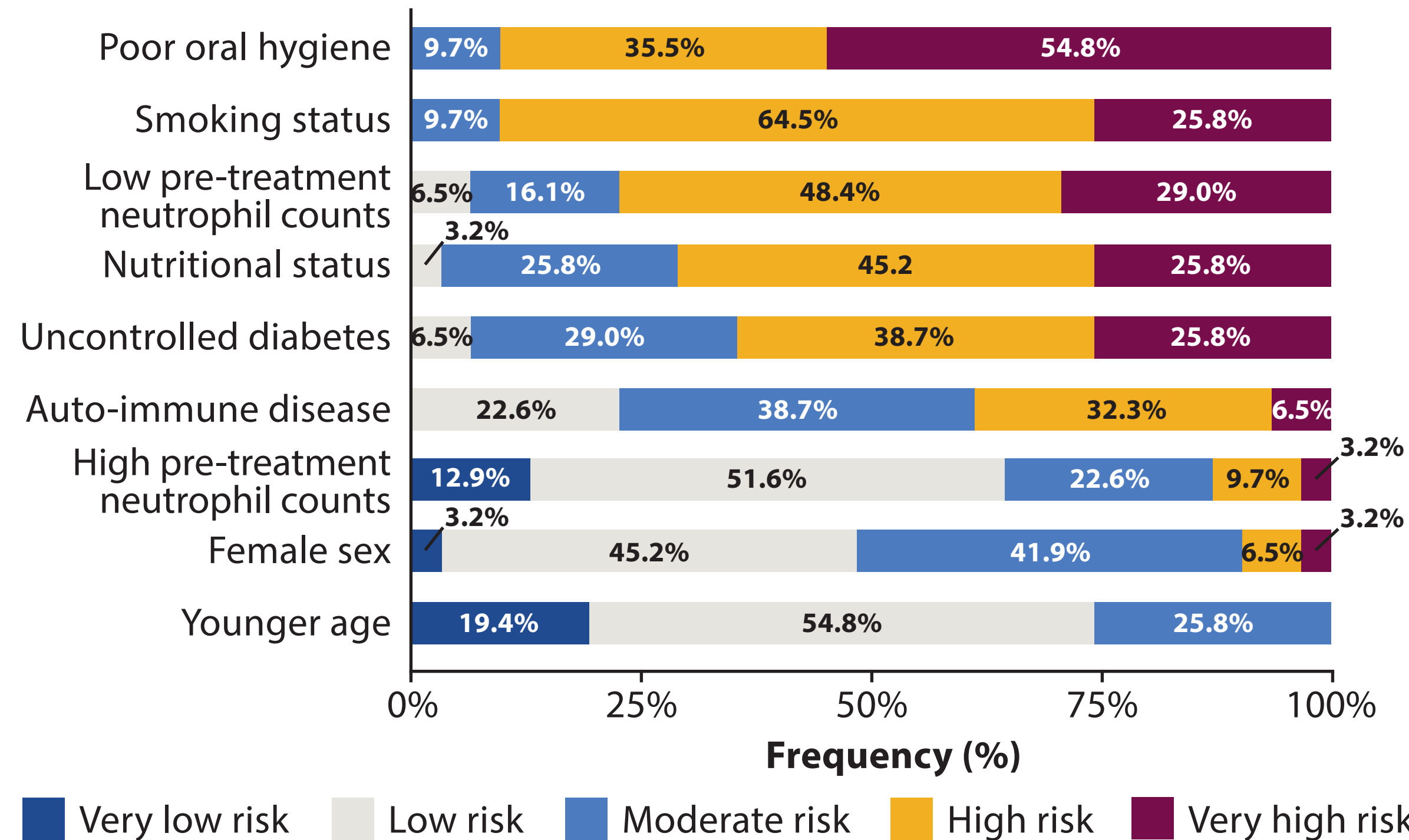


Perceived Risk Factors for S/OM

- Most oncologists perceived poor oral hygiene (28/31; 90.3%), smoking status (28/31; 90.3%), and low pre-treatment neutrophil counts (24/31; 77.4%) as patient characteristics associated with high or very high risk for developing S/OM (**Figure 2**)
- Younger age, female sex, and high neutrophil counts were generally perceived to be low-risk and/or very low-risk patient characteristics for developing S/OM
- The top treatment-related factors identified by oncologists as high- or very high-risk for developing S/OM were type of treatment (26/31; 83.9%), treatment dose (23/31; 74.2%), and dosing schedule (19/31; 61.3%; **Figure 3**)

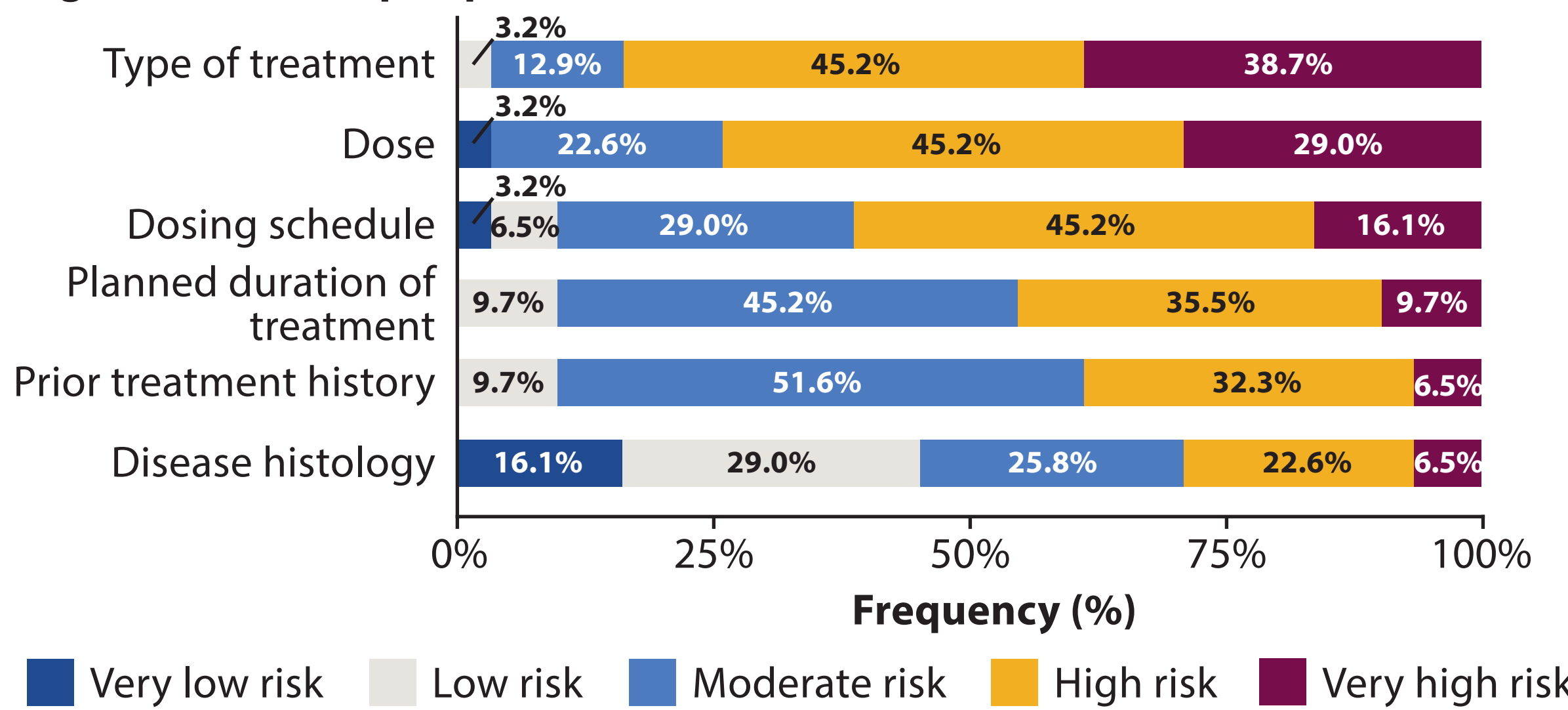
RESULTS

Figure 2. Provider perspectives (n=31) on patient-level S/OM risk factors



Very low risk Low risk Moderate risk High risk Very high risk

Figure 3. Provider perspectives (n=31) on treatment-related risk factors for S/OM



Very low risk Low risk Moderate risk High risk Very high risk

DISCUSSION

- A majority of oncologists were not aware of any S/OM management strategies or guidelines. While awareness of S/OM guidelines was low, physicians were generally able to discern between high- and low-risk risk factors for S/OM development and availability of mouthwash was not identified as a major barrier
- Barriers to S/OM management included lack of knowledge/access to guidelines as well as challenges with patient adherence to basic oral care and access to other healthcare providers (e.g., dental care)
- Targeted resource development, such as the guidelines recently published for datopotamab detruxetecan-associated S/OM, and efforts to increase provider training on S/OM may be areas of opportunity for improving the experience of cancer patients with S/OM⁴

LIMITATIONS

These results represent only the views of oncologists included in the survey, which may not be representative of nationwide perspectives on S/OM management and are limited by the relatively small number of respondents (N=31)

CONCLUSION

- Despite the occurrence of S/OM in their patients, a majority of oncologists surveyed lacked awareness of any published S/OM management guidelines
- Targets for improving S/OM management include development of treatment-specific educational resources and training and methods for connecting oncologists with other healthcare providers involved in S/OM management (e.g., dentists)

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Disclosures

Sarah Lucht, Pratham Shah Pathak, Bryce Allen-Van Doren, Monica Ahlquist, JaLyna Laney, and Bruce Feinberg are employees of Cardinal Health. Bruce Feinberg has stock ownership in Cardinal Health. William John was an employee of Cardinal Health at the time of study conduct. Ruchit Shah is an employee of Daiichi Sankyo Inc. Marvin Nguyen is a contractor working with Daiichi Sankyo Inc. Jon Apple is an employee of Astra Zeneca.

[†]"Magic" mouthwash included various formulations, including hydrocortisone injection + diphenhydramine + viscous lidocaine + nystatin, magnesium aluminum hydroxide + viscous lidocaine + diphenhydramine, or other combination of antibiotic + antifungal + antihistamine + numbing medication.

Corresponding author: **Marvin Nguyen**

marvin.nguyen.ext@daiichisankyo.com