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RESEARCH ARTICLE

Review of Clinical Records in the Oral and Maxillofacial Surgery at Hirose Hospital

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Abstract

Introduction: Our hospital is located in Chuo Ward, Fukuoka City, and comprises 15 medical departments, a general ward with 49 beds, and a palliative care ward with 13 beds. The department of oral and maxillofacial surgery was established in October 2019, and outpatient services were initiated in May 2020.

Objectives:This study examines the clinical achievements of this department and discusses its challenges.

Material and methods: Data were extracted from medical records from May 2020 to March 2023 to analyze the department's performance.

Results: For outpatient cases, the monthly average included approximately 29 new patients, 84 returning patients, about 9 cases of perioperative oral function management, and interventions for palliative care ward patients, totaling approximately 6 cases. Surgical cases under general anesthesia included 94 cases of maxillomandibular advancement for jaw deformities, 69 cases of maxillomandibular advancement and genioplasty, 1 case of mandibular advancement and genioplasty, 25 cases of plate removal and genioplasty, 49 cases of plate removal, 5 cases of genioplasty, and 7 other cases (extraction).Since the establishment of the dental and oral surgery outpatient clinics, there has been an increasing trend in outpatient visits and surgical cases. Among inpatients in the palliative care ward, 30%–40% received oral care interventions.

Conclusions: End-of-life oral care aims to reduce oral discomfort caused by poor hygiene, alleviate oral dryness, and support enjoyable eating. Improving the quality of life at the end of life will be explained carefully to patients and their families in the future.

Key words: Oral Care, Perioperative Oral Function Management, Supportive Therapy, Palliative Care, End-of-Life.

1. Introduction

Our hospital is situated in the central part of Fukuoka City, providing services across 15 medical departments, including a general ward with 49 beds and a palliative care ward with 13 beds. We actively welcome patients for treatment, particularly focusing on breast diseases, and extend our care to those in need of palliative care. Our department, specializing in inpatient treatment and surgery for jaw deformities, was established in October 2019. Oral and maxillofacial surgery has evolved into a specialty increasingly sought after for procedures related to general anesthesia surgery, chemotherapy, and oral function management in palliative care. Consequently, in May 2020, we opened an outpatient clinic to provide perioperative oral function management and perform minor surgeries. Our team comprises one full-time physician, four part-

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time physicians, and two dental hygienists. Currently, we offer services ranging from orthognathic surgery to minor surgeries, perioperative oral function management, and oral care in the palliative care wards. For perioperative oral function management, we provide oral care for patients undergoing general anesthesia, chemotherapy, and palliative care. We conduct weekly follow-up visits to the palliative care wards to assess the patient's condition and confirm the details of oral care. In this study, we reflect on our clinical achievements and identify key issues

2. Material and Methods

We extracted clinical data from medical records spanning May 2020 to March 2023 to analyze treatment outcomes.

3. Results

3.1 Outpatient Clinic

The monthly trends of new patient visits, follow-up visits, and minor outpatient surgeries are depicted in Figures 1-3. On average per month, there were approximately 29 new patients, 84 returning patients, about 9 cases of perioperative oral function management, and 6 interventions for patients in palliative care wards. The monthly average for outpatient surgical cases included approximately 10 extractions and 5 cases of lingual frenectomy. Since the establishment of the outpatient clinic, there has been a steady increase. For perioperative oral function management, an average of 9 patients per month received care either at our hospital or at their regular dental clinics (Figure 4). Among inpatients in the palliative care ward, the number of patients receiving oral care slightly increased immediately after the opening, likely due to increased awareness (Figure 5). However, considering the overall monthly average of approximately 16.9 palliative care ward inpatients, the percentage of patients receiving oral care remained generally between 30%–40%. This can be attributed to the fact that while oral care is covered by insurance, some individuals or their families choose to decline interventions based on personal preferences.

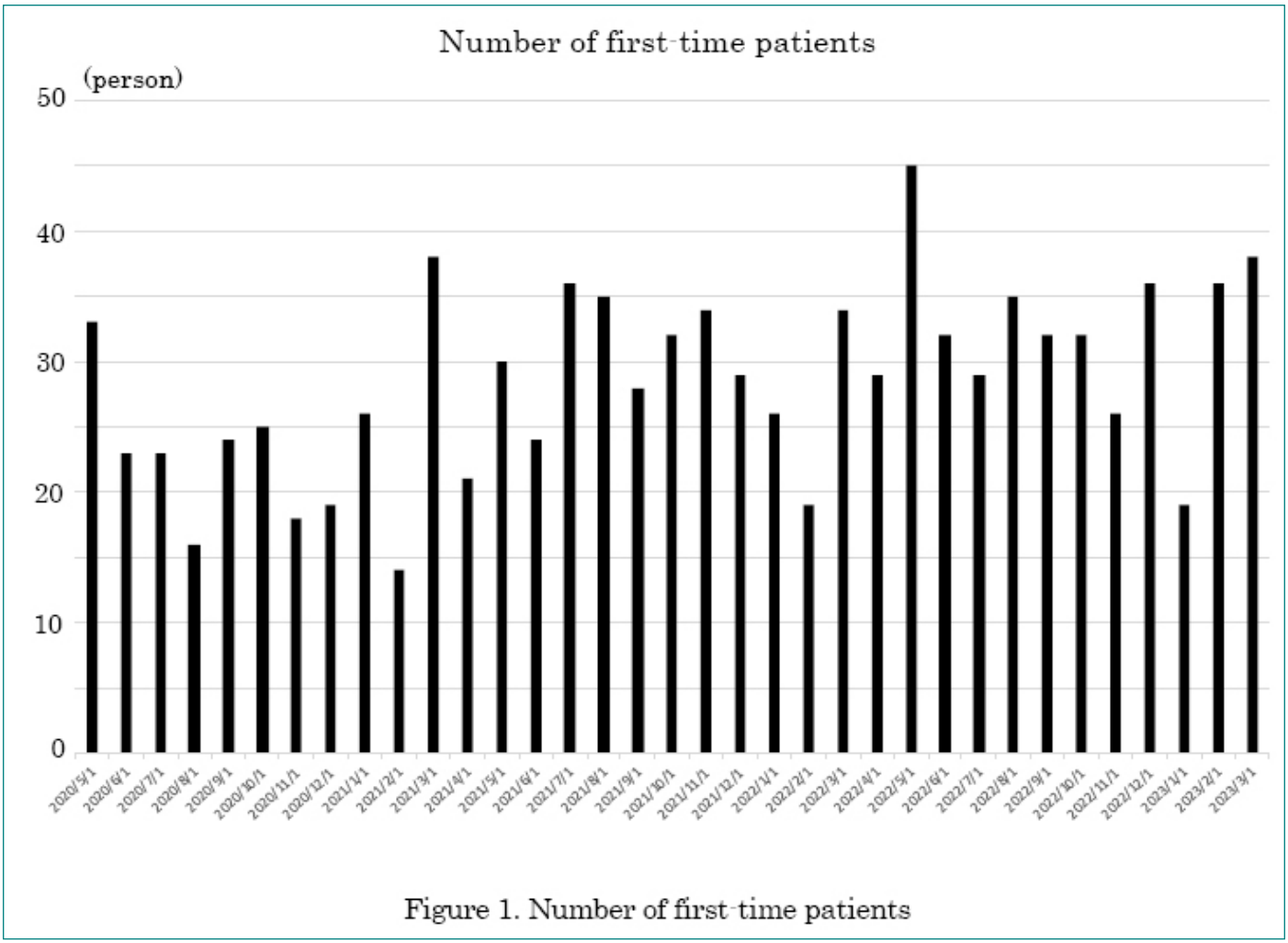

Figure 1. *Number of First-Time Patients The average monthly number of patients was 29.*

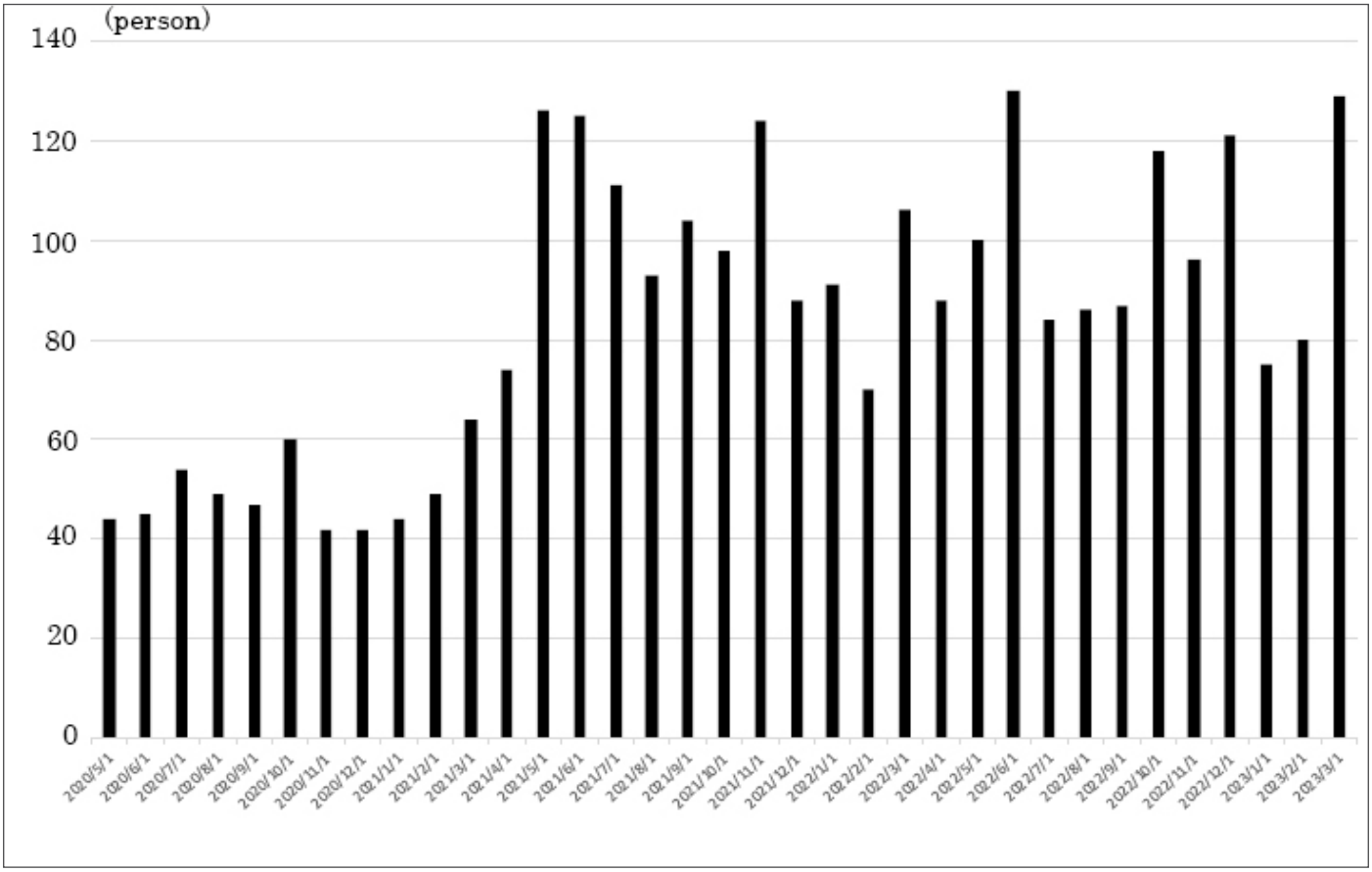

Figure 2. *Number of Return Visit Patients The average total number of patients per month was 84.*

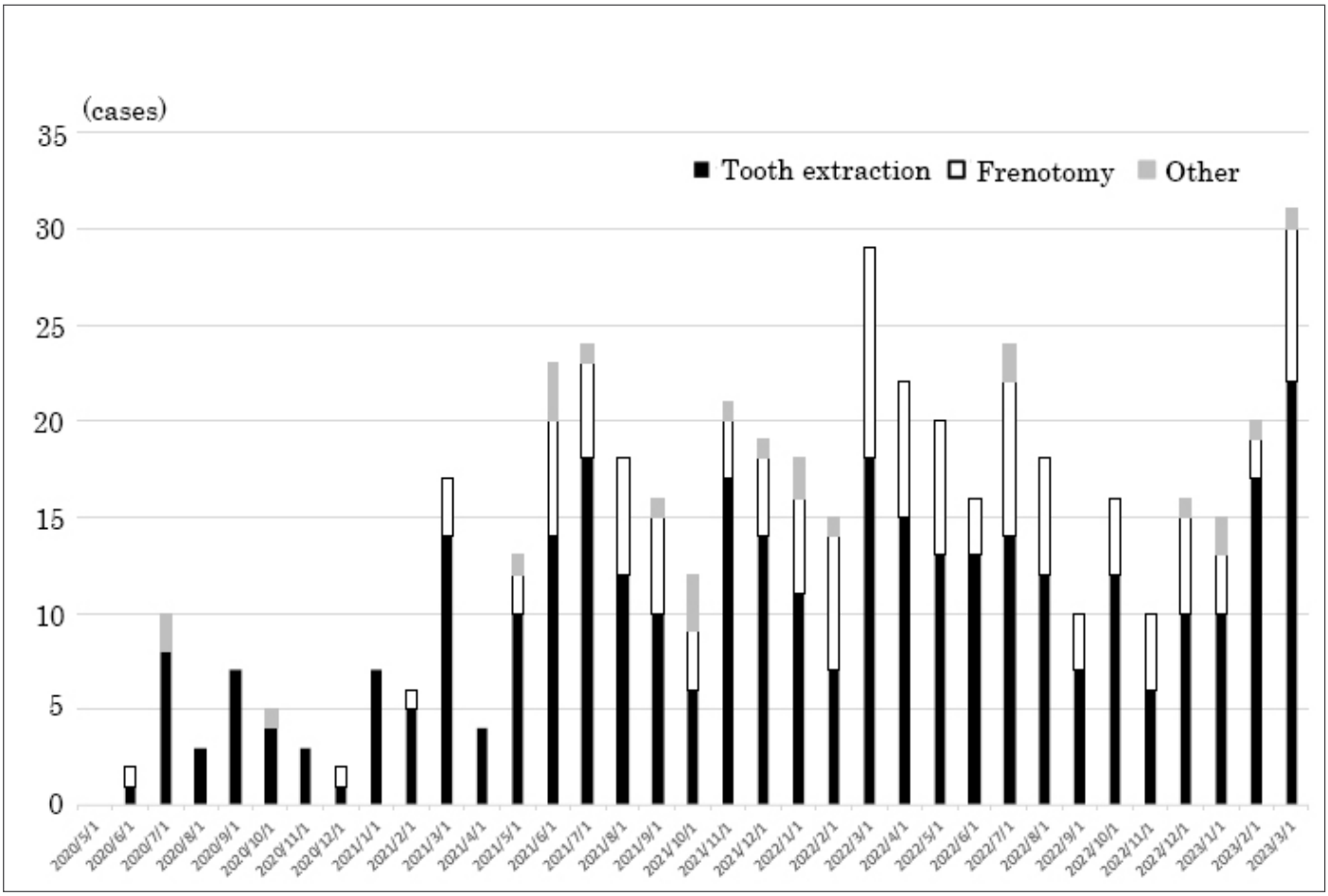

Figure 3. *Classification of Outpatient Minor Surgeries Tooth extraction was the most common type of outpatient minor surgery, followed by lingual band surgery.*

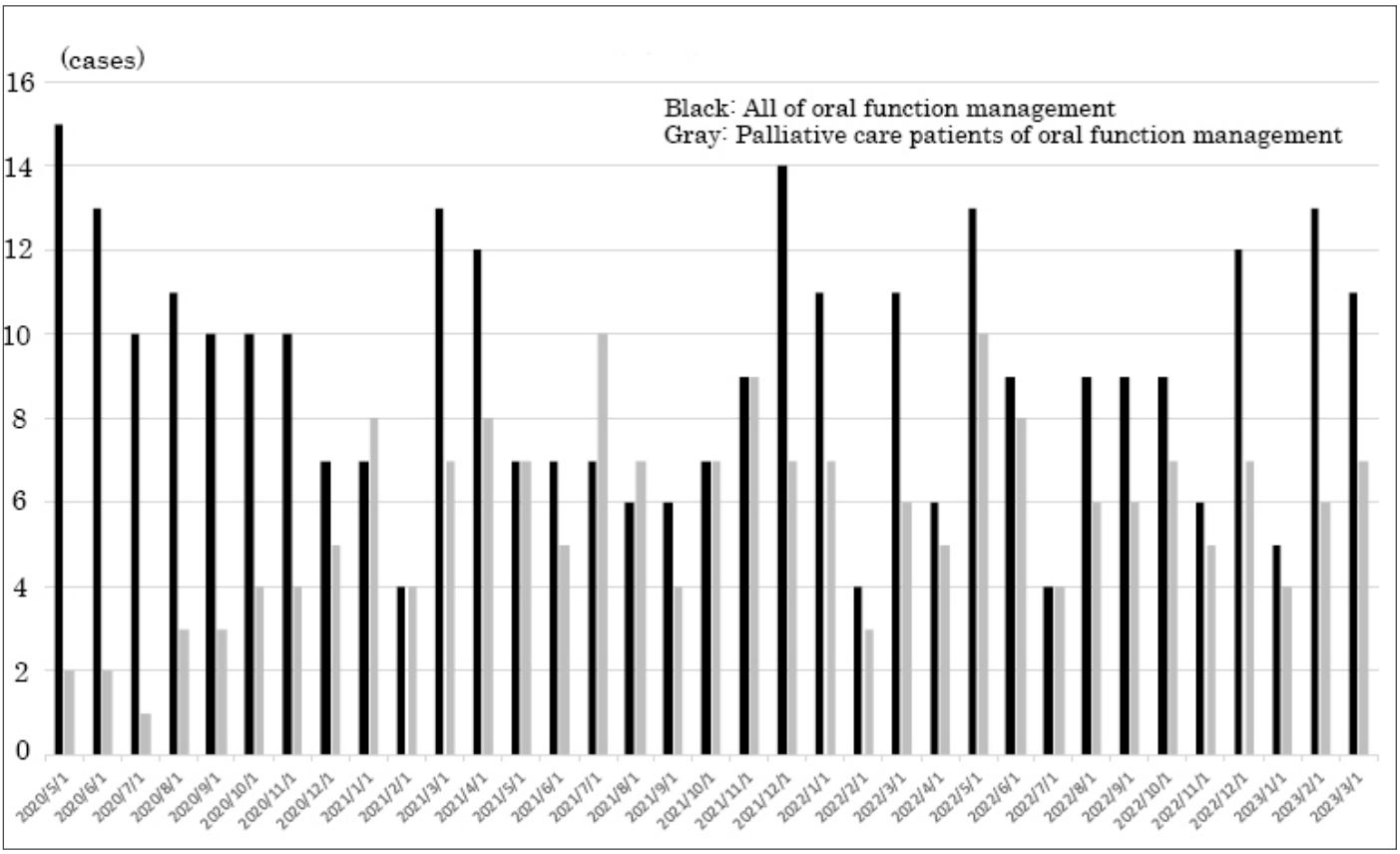

Figure 4. *Cases of Oral Function Management. The black bars represent all cases of oral function management, while the gray bars represent oral function management for palliative care patients.*

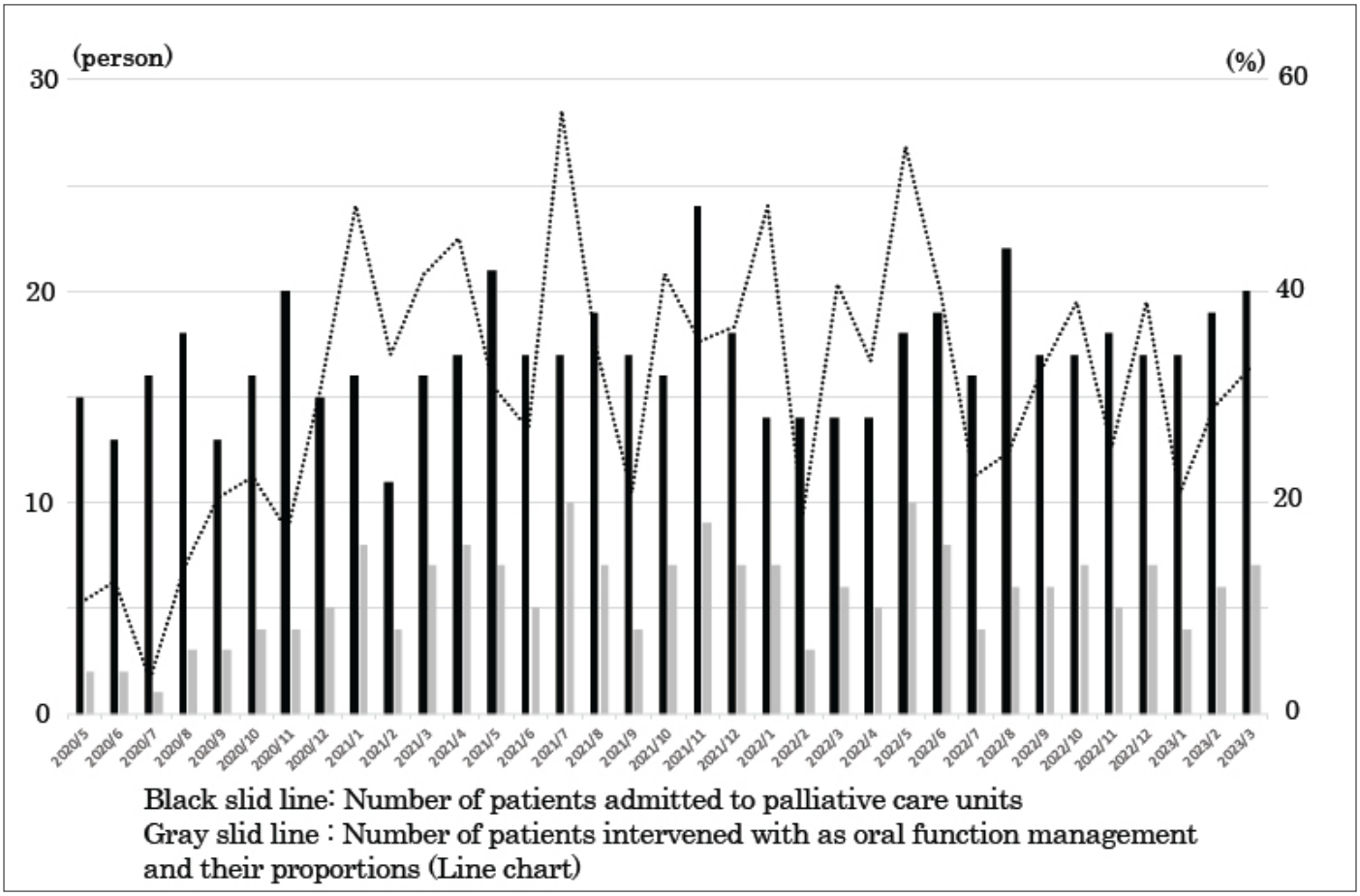

Figure 5. *Number of Patients Admitted to Palliative Care Units and Intervened with as Oral Function Management, and Their Proportions. The black solid line represents the number of patients admitted to palliative care units, the gray solid line represents the number of patients intervened with as oral function management, and the line chart shows their proportions.*

3.2 General Anesthesia Cases

There were 94 cases of maxillomandibular advancement, 69 cases of maxillomandibular advancement combined with genioplasty, 1 case of mandibular advancement combined with genioplasty, 25 cases of plate removal combined with genioplasty, 49 cases of plate removal, 5 cases of genioplasty, and 7 cases of extraction and other procedures (Figure 6). The number of surgical cases has increased. In patients with jaw deformities, maxillomandibular advancement is typically performed as the initial surgery. The decision to perform genioplasty is usually made postoperatively based on the progress of the bone and soft tissue and is often performed during plate removal.

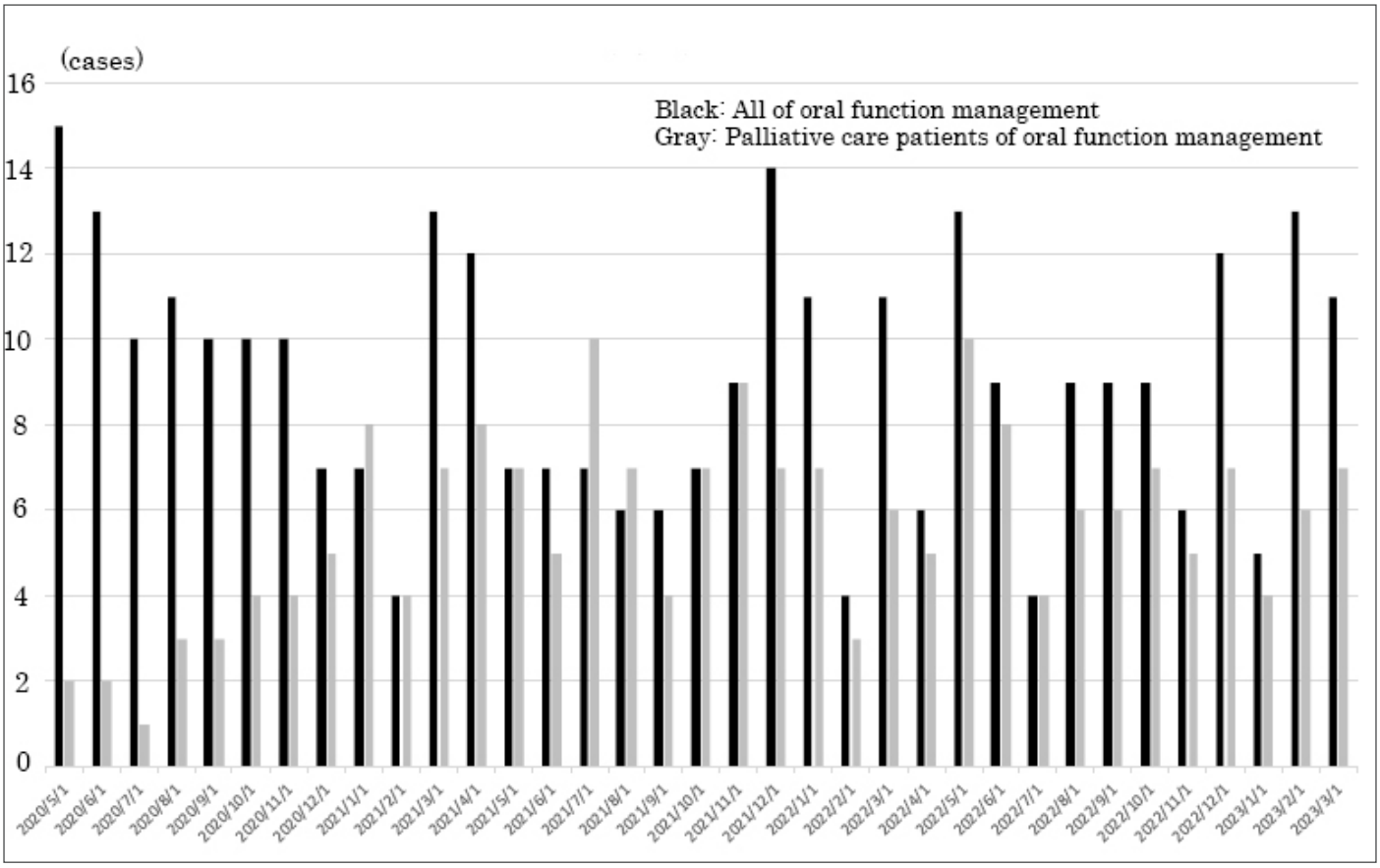

Figure 5. *Number of Patients Admitted to Palliative Care Units and Intervened with as Oral Function Management, and Their Proportions. The black solid line represents the number of patients admitted to palliative care units, the gray solid line represents the number of patients intervened with as oral function management, and the line chart shows their proportions.*

4. Discussion

4.1 Outpatient Cases and Orthognathic Surgery

Patients undergoing outpatient surgeries are typically referred for consultation from nearby dental clinics, often for procedures such as wisdom tooth extraction or lingual frenectomy. Cases from orthodontic dental clinics, particularly orthognathic surgery clinics, may involve the extraction of wisdom teeth as part of the preparation for orthognathic surgery.

According to an annual survey of surgical cases by the Japanese Society of Jaw Deformities, the number of orthognathic surgery cases has increased from 2926 in 2007 to 3405 in 2018[1]. This suggests a heightened awareness of orthognathic surgery, especially notable in its increasing application as a treatment for obstructive sleep apnea, particularly through maxillomandibular advancement. The utilization of orthognathic surgery is expected to continue growing

4.2 Perioperative Oral Function Management

Perioperative oral function management serves as supportive therapy for treating primary conditions. Traditionally, oral care for inpatients has been administered by ward nurses, involving toothbrush- or sponge-brush-based cleaning of dental surfaces, mucosal surface cleaning, and the application of moisturizers. Dentists and hygienists intervene in the perioperative period, significantly reducing postoperative pneumonia[2, 3]. Consequently, perioperative oral function management became an insurance-covered treatment in 2012.

Dentists and hygienists perform preoperative cleaning of interdental spaces, tartar removal, and extraction of non-restorable teeth. Postoperatively, they continue oral cleaning, which has proven beneficial not only

in reducing postoperative pneumonia but also in lowering the incidence of surgical site infections after colorectal cancer surgery[4] and preventing incidents of tooth loss during endotracheal intubation[5].

Additionally, perioperative oral function management was implemented as part of oral care during chemotherapy. Goals include reducing oral mucositis caused by chemotherapy and preventing bacteremia due to resident oral bacteria in the immunocompromised state[6]. Addressing these concerns, oral care by Dentists and hygienists before chemotherapy significantly reduces the frequency of oral mucositis onset[7].

4.3 Palliative Oral Care

In the oral health of patients in the terminal phase, various issues such as oral dryness, oral mucositis, candidiasis, swallowing difficulties, and taste disorders manifest[8, 9]. These symptoms lead to a decrease in oral intake, causing pain in the oral area and consequently reducing overall quality of life (QOL). Dentists and hygienists can address these symptoms through interventions.

Maintaining oral cleanliness can help suppress oral mucositis and candidiasis, while the use of moisturizers can reduce the risk of oral mucositis and control pain during oral intake. Improving oral dryness facilitates communication and enhances patients' ability to interact with family, friends, and medical staff, which has positive psychological implications.

Recent reviews on the oral conditions of terminally ill patients highlight the relationship between oral health deterioration and overall survival[8, 9, 14, 15]. Symptoms such as dry mouth, glossitis, bleeding gums, and swallowing difficulties tend to appear as death approaches[16]. Using the Oral Health Assessment Tool (OHAT) for evaluation, deterioration of conditions such as the lips and tongue correlates significantly with a shorter consciousness level and overall survival[17, 18].

These findings underscore the crucial role of daily oral care provided by caregivers in maintaining the QOL of terminally ill patients. However, challenges arise due to the aging of caregivers, and there is a correlation between the age and health of caregivers, and delayed awareness and response to the patient's oral issues[19]. Early and regular interventions by Dentists and hygienists are essential in addressing this situation, contributing not only to improving the patient's QOL but also alleviating caregiver fatigue.

In Japan, oral care for terminally ill patients (perioperative management of oral functions) is covered by insurance. However, based on the results of this study, the percentage of patients who could undergo intervention due to a lack of understanding from the individual or key person remained in the range of 30%–40%. Accumulating evidence suggests that oral function management by Dentists and hygienists not only prevents pneumonia and postoperative infections but also contributes to the improvement of the QOL of terminally ill patients and the sustainable support of caregivers.

Given these insights, dental healthcare professionals should communicate the importance of oral care to terminally ill patients and their key persons.

5. Competing interests

The authors declare that they have no competing interests.

6. Acknowledgement

This study was conducted with the approval of the Ethics Committee of Hirose Hospital.

The findings of this paper were presented at the 68th Annual Meeting of the Japanese Society of Oral and maxillofacial Surgery (8-11 November 2023, Osaka).

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