e-ISSN: 2637-0611

PENERBIT PRESS
UNIVERSITI TEKNOLOGI MARA

Available online at
https://journal.uitm.edu.my/ojs/index.php/COS

Compendium of Oral Science 13(2) 2026, 182–191

Compendium of Oral Science

Oral Myiasis: A Rare Case comprising more than 100 Maggots

Dayang Fadzlina Abang Ibrahim[1*], Eas Haryati Sabri[2] , Lim Woei Tatt[3]

[1]*Paediatric Dental Department, Miri Hospital, Ministry of Health Malaysia, 98000 Miri, Sarawak, Malaysia*
[2]*Paediatric Dental Specialist Clinic, Sarawak General Hospital, Ministry of Health Malaysia, 93586 Kuching, Sarawak, Malaysia*
[3]*Oral and Maxillofacial Surgery Department, Sarawak General Hospital, Ministry of Health Malaysia, 93586 Kuching, Malaysia*

ARTICLE INFO

Article history:
Received 31 May 2026
Revised 13 August 2026
Accepted 11 September 2026
Online first 30 September 2026
Published 30 September 2026

Keywords:
myiasis
cerebral palsy
maggots
palatal

DOI:
10.24191/cos.v13i2.10205

ABSTRACT

The uncommon disease known as myiasis is brought on by the maggots of flies, primarily those belonging to the Diptera order, invading surrounding tissues. Oral myiasis is linked to poor oral hygiene, severe halitosis, mouth breathing while sleeping, mental disability, cerebral palsy, epilepsy, anterior open bite, incompetent lips, and other conditions. A thirteen-year-old child with cerebral palsy presents a case of oral myiasis. A visual inspection of the wiggling maggots and the distinctive clinical signs led to the diagnosis. Within the palate and gingival sulcus of the posterior mandible, a large number of maggots were discovered. The treatment included local debridement of the palate and gingival tissue, dental hygiene practices, and the manual removal of each maggot and application of turpentine oil. Extensive oral hygiene instruction and reinforcement to parents were provided. The patient had been on follow-up for one month. The disease was resolved exceptionally well with this conservative care.

1. INTRODUCTION

Humans are afflicted by a number of parasitic diseases, including myiasis, a particularly dangerous infestation brought on by common flies (Jain & Taneja, 2022). The term myiasis is derived from the Greek words "myia" (fly) and "iasis" (disease) (Jain & Taneja, 2022, Dos Passos et al., 2021). The term "myiasis" refers to the infestation of living vertebrates and humans by dipterous maggots that consume their hosts' liquid body secretions, dead or living tissue, or food that they have swallowed (Dos Passos et al., 2021). Myiasis is uncommon, and the average children is unlikely to encounter it. Even in underdeveloped nations, the occurrence of oral myiasis is rare (Jain & Taneja, 2022).

[1*] Corresponding author. *E-mail address*: dayangfadzlina3@gmail.com

Myiasis most commonly affects the nose, eye, lung, ear, anus, vagina, and, less frequently, the mouth (Rauen et al., 2022). Oral myiasis is less common than cutaneous myiasis because the oral tissues are not permanently exposed to the oral environment. Parasitic maggots penetrate the soft tissues of the oral cavity in orofacial myiasis (Dos Passos et al., 2021).

Myiasis is divided into two types: primary (maggots feed on living tissue) and secondary (maggots feed on dead tissue) (Ünalan Altıntop et al., 2022). Depending on the status of the affected tissue, myiasis is classified as accidental (maggots consumed with food), semi-specific (maggots laid on necrotic tissue in wounds), or compulsory (maggots harming healthy skin). The place can be further classified as cutaneous, external orifice, internal organs, or generalized (Singh et al., 2023).

Oral myiasis may produce mild to severe pain, be entirely benign and asymptomatic, or, in the worst circumstances, result in the patient's death (Ünalan Altıntop et al., 2022). Extraction wounds, bad dental hygiene, aging, mouth breathing while sleeping, suppurative lesions, necrotic tissues, diabetes and perivascular diseases, primarily in the elderly, severe halitosis, alcoholism, cerebral palsy, mental challenges, and hemiplegia, and factors that support persistent non-closure of the mouth are risk factors for oral myiasis (Monawwer et al., 2023). Infections from nosocomial infections, drug addiction, tropical vacations, dental extractions, and mental health patients have all been linked to oral myiasis (Monawwer et al., 2023). This case report describes the manifestation and management of a child with spastic cerebral palsy who had oral myiasis in the palate and bilateral buccal sulcus of the mandible region

2. CASE DESCRIPTION

A 13-year-old Malay girl with spastic cerebral palsy was referred to our department after experiencing enlargement of the gingiva, itching, and a fetid stench for about three days. Moreover, her parents reported removing 70 worms from her mouth after noticing worm-like characteristics in the palate region. The patient disclosed a medical history of cerebral palsy, epilepsy and was cognitively challenged. In addition, she experienced seizures, which were managed with medicine (two doses of 100 mg carbamazepine per day). Percutaneous gastrostomy procedures were done in 2019 for protection against aspiration pneumonia. There is no record of any consanguineous marriages in the family tree. The patient had four healthy siblings with no identified illnesses. The patient was fully reliant on her mother for daily cleanings and feedings. The mother stated that she had periodically cleaned her oral cavity with a moist cloth because she was feeding through a gastrostomy tube. The patient has never had a dental examination or treatment before. She has a history of exfoliated primary upper right canine in the last two months ago. The patient was afebrile when examined. She weighed only 16 kg. She presented with incompetent lips, an anterior open bite, and very poor oral hygiene, halitosis as well as supra and subgingival calculus. The radiographic examination could not be conducted due to the lack of patient cooperation. With respect to the upper right canine teeth, which were covered in necrotic tissue and slough, the palatal mucosa was separated and elevated from the palate bone, forming deep pockets. The hard palate had a bone defect and the hard palate tissue was punctured close to the incisive papilla area. There were two laceration wounds measuring 8 cm x 7 cm and 5 cm x 5 cm in size on the hard palate extending to the soft palate region and infiltrating the underlying tissues with an everted and erythematous border (Fig. 1A & B). A full thickness mucoperiosteal flap on the right palate was raised to expose the palate bone, and an additional 15-20 maggots were manually removed from the affected areas. The entire anterior hard and soft palate was covered in maggot infection, which caused the right mucoperiosteum to separate from the underlying bone. Upon closer inspection,

multiple maggots were visible to be moving within and emerging from the lesion. The affected area was swollen, and it extended to the middle of the palate. There was no communication with the nasal floor seen upon inspection. There were also laceration wounds exposing the alveolar bone on both right and left buccal sulcus from the first permanent premolar to the first permanent molar measuring 3 cm x 4 cm and 4 cm x 5 cm (Fig. 1 (C, D & E)). Deep pockets of gingiva had developed in the buccal area, and there were more than thirty live maggots visible. A fistula was discovered near the ulcer base. Two submandibular lymph nodes were palpable on the left side of the neck. The clinical presence of the maggots and maggot inspection establish the diagnosis of oral myiasis. The patient was admitted to the hospital and an emergency general anaesthesia slot was booked for removal of the maggots, scaling and debridement. The patient was prescribed with antibiotic (intravenous Augmentin) and analgesics (paracetamol) for a total of five days. The lesion was cleansed with 10% hydrogen peroxide. A gauze soaked in turpentine was inserted into the cavity and left there for ten to fifteen minutes. After dozens of maggots "rushed" out of the cavity, they were carefully extracted one at a time. Using a tweezer, about 48 maggots in total were extracted from the oral cavity (Fig. 2). Wound debridement and suturing with Vicryl 4/0 were performed on the site of a large laceration wound at the palate and bilateral buccal sulcus after confirming the maggots were fully eliminated (Fig. 3). The patient was hospitalized for five days following surgery, receiving antibiotics and analgesic medications. Oral toileting and inspection were carried out three times every day. The oral cavity was devoid of maggots. Her parents was counseled on the importance of daily general and special care dental hygiene. Because of her psychomotor impairments, she was advised to wear a mask and install a mosquito net at home. A thorough oral hygiene education program was implemented for the parents. After a month, the patient was evaluated, and the wound healing was found to be satisfactory with the swelling decreased (Fig. 4).



Fig. 1. (A) Pre-treatment photograph depicting the fistula on the incisive region of the hard palate and the presence of the socket of exfoliated tooth 53 (B) Laceration wound on the right palate extending from tooth 12 to 17 exposed the palatal bone (C) Bilateral laceration wound on the right and left lower buccal sulcus from first permanent premolar to first permanent molar (D) Close up laceration wound on the right lower buccal sulcus (E) Close up laceration wound on the left lower buccal sulcus.



Fig. 2. Removed maggots in a single sitting.

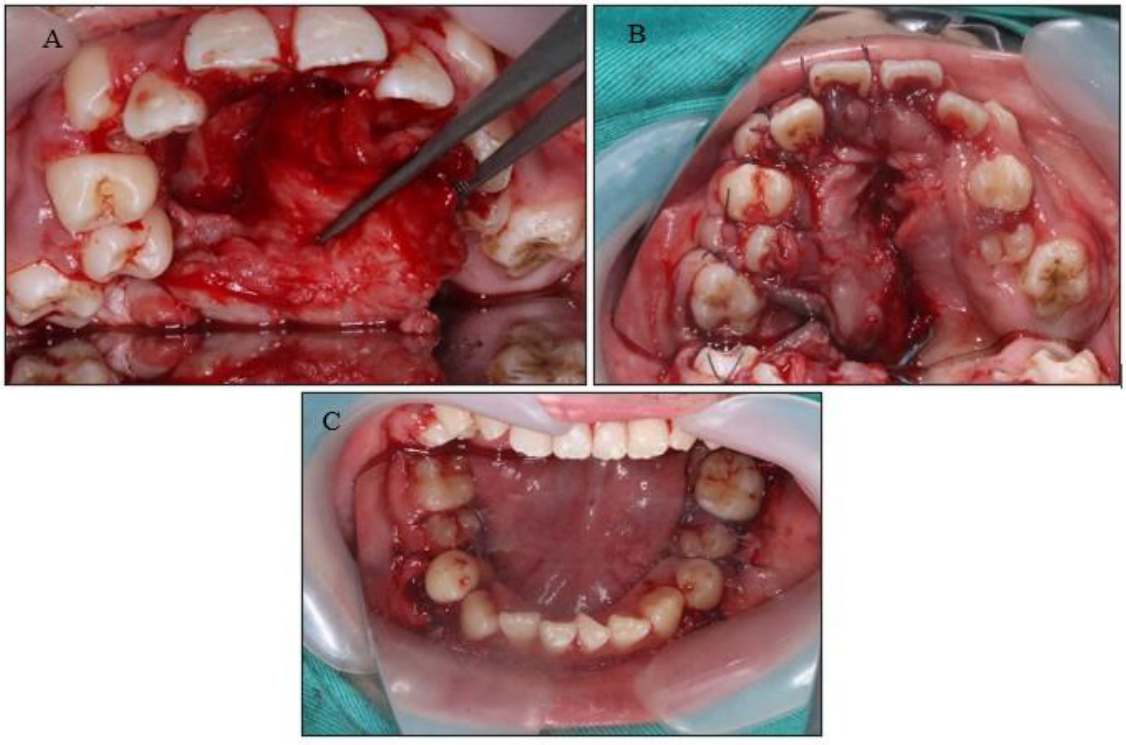


Fig. 3. (A) Full mucoperiosteal flap was raised on the right palate revealing clean palatal bone devoid of maggots (B) Site of suturing of the palate (C) Site of suturing of the bilateral lower buccal sulcus.

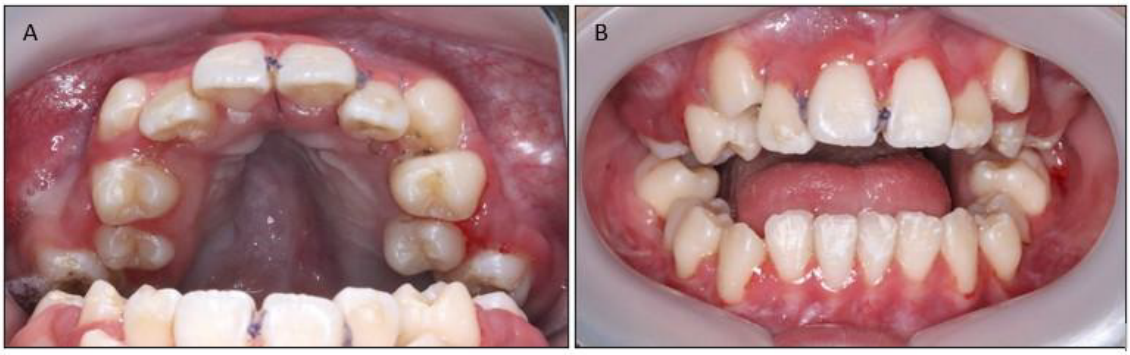


Fig. 4: Post-operative follow-up photo (A) Healing on palatal site of the gingiva (B) Healing on upper gingiva and bilateral lower buccal sulcus of the mandible.

3. DISCUSSION

The patient in this case report had cerebral palsy complicated with epilepsy, poor oral hygiene, lack of manual dexterity, lip incompetence anterior open bite, and mouth breathing. These are typically risk factors for the development of oral myiasis. Such incidents have been documented in the literature (Ünalan Altıntop et al., 2024). Furthermore, the presence of a socket of the exfoliated primary canine provides a proper substrate and temperature for maggots to survive, which is also manifested in this patient. It was speculated that the flies were drawn to the halitosis due to inadequate oral care or fermenting food waste (Khan et al., 2017).

A fly's life cycle starts with the egg stage and progresses through to maggots, pupa, and adult stages (Kumar & Singh, 2014). Moisture, necrotic tissue, and a proper temperature are necessary for both egg laying and maggot survival. Throughout the six to eight days maggot stage, they are parasitic on humans (Kumar & Singh, 2014). They seek out a suitable niche such as a warm, moist, and conducive environment to thrive in after they hatch to develop into a pupa by hiding deep within the tissues due to their photophobia (Monawwer et al., 2023). The maggots have backward directed segmental hooks that they use to attach to the surrounding tissue. The maggots also exit the tissues via minute orifices. Additionally demonstrated by this case was the maggot's profound pocket burrowing (Shenoi et al., 2010). These conditions for the maggot’s survival are met by the perforation in the oral cavity, which also provides mechanical protection (Shenoi et al., 2010). Maggots have a proclivity to penetrate deeply into tissues, producing significant damage and typically accompanied by putrid-smelling discharges and ulcerations. Maggots emit toxins that damage host tissue. Proteolytic enzymes generated by the surrounding bacteria degrade the tissue, which the maggots feed on. The combination of the toxin or enzyme secreted by the maggots and bacteria can potentially result in tissue damage and bone erosion as manifested in this case (Sangalette et al., 2023).

Primary oral myiasis, as in this case, often affects the anterior region of the mouth. Oral myiasis can also be known as (Sangalette et al., 2023):

1) Maggots that live outside the body.
2) Maggots burrow into undamaged skin and grow beneath it.
3) Maggots reside in the intestines or the urinary tract.
4) Eggs or young maggots are deposited in body wounds or natural holes.

Our case report corresponds to the fourth group in the preceding classification.

Few cases have been reported involving the posterior region of the jaws, as in this case, despite oral myiasis most frequently affecting the anterior part of the oral cavity, including the palate and both jaws (Kumar & Singh, 2014). This suggests direct inoculation of tissues, as described in this case and most cases (Kumar & Singh, 2014)(Vasanthakumar et al., 2020).

All myiasis cases should be treated immediately since their larval growth is so rapid that it might cause irreversible damage (Dos Passos et al., 2021). If the illness is not treated, consequences may include face cellulitis, perforation of the palate or septum, ulceration of the tonsils or posterior pharynx, and necrosis and loss of tissue (Kumar & Singh, 2014). Due to the patient's special circumstances, the size of the lesions, and the number of maggots that needed to be removed, a surgical procedure under general anesthesia was performed in this case to remove the maggots (Kumar & Singh, 2014). Mechanical removal of the maggots is the traditional method of managing oral myiasis. Topical treatment consists of using a turpentine larvicidal agent such as Negasunt, mineral oil, ether, chloroform, ethyl chloride, mercuric chloride, creosote, saline, systemic butazolidine or thiobendazole. These has been identified as a useful substance for extracting maggots from the oral cavity (Dos Passos et al., 2021). In the present case, the maggots were eliminated by sealing the contaminated wound with turpentine, which suffocated and forced the maggots to the surface. Turpentine is a carcinogenic substance that can cause tissue necrosis. It can cause epithelial hyperplasia, hyperkeratosis, and ulceration when used topically (Sangalette et al., 2023). The damage, however, is reversible; hyperplasia only continues while the stimulus is present and regresses when it is withdrawn. We excised the necrotic tissues to aid in the repair of the maggot-induced damage, as indicated by other studies (Vasanthakumar et al., 2020). Other than that, local debridement, maintaining dental hygiene, and antibiotic therapy to prevent subsequent infections are among the common therapeutic methods (Vasanthakumar et al., 2020). Broad-spectrum antibiotics like ampicillin and amoxicillin are part of the systemic treatment, particularly if the wound is secondary to infection. In more severe situations, systemic ivermectin, a semi-synthetic macrolide antibiotic may produce favorable outcomes. Ivermectin works by obstructing nerve terminals by releasing gamma amino butyric acid, which results in palsy. It also kills parasites and eliminates them on their own by washing away the maggots (Kumar & Singh, 2014). Children under the age of five, individuals weighing under fifteen kilos, and those suffering from renal or hepatic illness should not take ivermectin (Aswath, 2022). Since the patient in this case is underweight, augmentin was administered in place of ivermectin to prevent secondary infection.

By reducing the fly population and practicing proper oral and personal hygiene, this disease can be avoided. Patients with physical or mental disabilities are considered special needs patients. Due to their lack of manual dexterity, the majority of these individuals struggle to maintain proper dental hygiene (Bhansali et al., 2018). Parents and guardians might be too preoccupied with the social or other aspects of the patient's being instead of concentrating on primary health issues. Instead, they may be focusing on the social or other elements of the patient's health. Family members and/or caregivers should provide additional care for patients with neurological, motor, and psychological disabilities. This care should include good oral hygiene and the use of mouth masks to limit open wound exposure, which can prevent myiasis. In order to foster cooperation and confidence as well as avoid illness, it is our responsibility as dentists to inform the parent with special needs children about the importance of exposing them to dental intervention as early as feasible.

Individuals with mental and physical disabilities are primary;y affected, as challenges with manual dexterity and inadequate caregiver support can hinder the maintenance of proper oral hygiene. To prevent such disorders, these people must be subjected to dental examinations at regular intervals. To prevent the occurrence of infestations, personnel caring for special individuals are urged to maintain personal hygiene and to adopt appropriate procedures for excellent environmental hygiene.

4. CONCLUSION

Myiasis could be avoided by practicing good oral and personal hygiene, cleaning and dressing wounds, and educating the vulnerable population on simple sanitary precautions. Surgical debridement of the wound, systemic antibiotics for subsequent infections, and, most importantly, maintaining proper dental hygiene yield the best results after the maggots are manually removed. Because medically challenged, dependent patients are unable to maintain basic hygiene, the guardian or caretaker must take extra precautions. In order to promote cooperation and stop the spread of illness, it is our duty as dentists to raise awareness of the need for a special needs patient to have regular, quality dental care as soon as feasible.

5. ACKNOWLEDGEMENTS

The authors would like to thank the patient for her cooperation throughout the treatment period. We would like to thank the Director General of Health Malaysia for his permission to publish this article.

6. CONFLICT OF INTEREST STATEMENT

The authors agree that this case report was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

7. AUTHORS' CONTRIBUTIONS

Dayang Fadzlina Abang Ibrahim, the first author and a corresponding author, conceived, wrote, revised the article, and provided the data for the case report and submitted the revised manuscript. **Eas Haryati Sabri**, the second author, conceptualised the central research idea and provided the theoretical framework. **Lim Woei Tatt**, third author, provided logistic support and anchored the review and revisions. All authors have critically reviewed the case report and are responsible for the content and the manuscript.

8. REFERENCES

Aswath, N (2022). Oral myiasis. *Pan African Medical Journal, 41*, 335. https://doi.org/10.11604/pamj.2022.41.335.32098.

Bhansali, S.P., Tiwari, A.D., Gupta, D.K., & Bhansali, S. (2018) Oral myiasis in paralytic patients with special needs: A report of three cases. *National Journal of Maxillofacial Surgery, 9*(1), 110-112. https://doi.org/10.4103/njms.NJMS_82_17.

Dos Passos, J.B.S., Coelho, L.V., de Arruda, J.A.A, de Oliveira Silva, L. V., do Valle, I. B., de Souza Santos, M., de Figueiredo, E. L., Abreu, L. G., & Mesquita, R. A. (2021). Oral myiasis: Analysis of cases reported in the English

literature from 1990 to 2020. *Special Care Dentistry, 41*(1), 20-31. https://doi.org/10.1111/scd.12533.

Jain, A., & Taneja, S. (2022). Oral myiasis affecting paediatric patients: a systematic review. *Journal of Stomatology Oral and Maxillofacial Surgery, 123*(3), e32-e36. https://doi.org/10.1016/j.jormas.2021.07.006.

Khan, B.A., Nazir, M.B., Perveen, B., & Bin, M. (2018). Oral and cutaneous myiasis in a five-year-old child from Karachi, Pakistan. *Infezioni in Medicina, 26*(4), 385-388.

Kumar, P., & Singh, V. (2014). Oral myiasis: case report and review of literature. *Oral Maxillofacial Surgery*, *18*(1), 25-29. https://doi.org/10.1007/s10006-012-0373-2.

Monawwer, S.A., Ali, S., Ali, S.L., & Malikzai, A. (2023). Oral myiasis: A known case of scar epilepsy in a 45-year-old. *Clinical Case Report, 11*(6), e7546. https://doi.org/10.1002/ccr3.7546.

Rauen, C.A., Lança, M.L., Jitumori, C., Inaoka, S., Bonan, P., & Kaminagakura, E. (2022). Oral myiasis in humans. *Clinical and Experimental Dermatology, 47*(4), 739-742. https://doi.org/10.1111/ced.14999.

Sangalette, B.S., Bortoloto, J.G.P., Pavoni, R.F., Cappellari, V. I., Capelari, M. M., Shinohara, A. L., Calvo, A. M., & Toledo, G. L. (2023). Treatment of oral myiasis in a patient with implant-supported fixed prosthesis. *The Revista do Instituto de Medicina Tropical de São Paulo, 65,* e27. https://doi.org/10.1590/S1678-9946202365027.

Shenoi, R., Kolte, V., Ingole, P., Rajguru, J., Karmarkar, J., Kolte, S., & Patankar, K. (2020). Management of Oral Myiasis Caused by Chrysomya bezziana - A Case Series. *Annals of Maxillofacial Surgery, 10*(2), 521-524. https://doi.org/10.4103/ams.ams_177_20.

Shahi, S., Shrestha, S.D., Latheef, M.A., Bhandari, T.R., & Shrestha, D. (2019). Traumatic Lower Lip Myiasis-A Rare Presentation. *JAMA Otolaryngology Head & Neck Surgery, 145*(2), 194-195. https://doi.org/10.1001/jamaoto.2018.3858.

Singh, T.K., Sankar, H., E, A., Gupta, A., & Kumar, M. (2023). Oral Myiasis in an Immunocompromised Adult Undergoing Chemotherapy: A Rare Case and Comprehensive Treatment Protocol. *Cureus, 15*(7), e42555. https://doi.org/10.7759/cureus.42555.

Ünalan Altıntop, T., Koç, N., Çetik, S., Nalbantoğlu, S., Akyön, Y., & Ergüven, S. (2022). A Rare Case of Oral Myiasis Caused by Phormia regina (Meigen) (Diptera: Calliphoridae) in an Intubated Patient. *Turkish Journal of Parasitology, 46*(1), 75-77. https://doi.org/10.4274/tpd.galenos.2021.81300.

Vasanthakumar, V., Varalakshmi, P.R., & Vanmathi, R. (2020). Oral Myiasis of Maxilla (Palatal Gingiva). *Contemporary Clinical Dentistry, 11*(2), 162-164. https://doi.org/10.4103/ccd.ccd_49_20.

© 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY-NC-ND) license (http://creativecommons.org/licenses/by/4.0/).

9. AUTHOR INFORMATION

About the Authors

Dayang Fadzlina Abang Ibrahim, DDS (UKM), MsCD (UiTM), Dr In Paediatric Dentistry (UiTM) is a Paediatric Dental Specialist in the Paediatric Dental Specialist Clinic, Miri General Hospital, Miri, Sarawak, Malaysia. Her main research activity is in the area of dental material, aesthetics and dental trauma. She has published widely on these subjects in publications such as the Photodiagnosis and Photodynamic Therapy, Journal of International Society of Preventive and Community Dentistry, Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology and Journal of Health and Translational Medicine (JUMMEC). She can be reached through her email at dayangfadzlina3@gmail.com.

Eas Haryati Sabri, DDS (UKM), Mclindent Child Oral Health (UM) is a Paediatric Dental Specialist in the Paediatric Dental Specialist Clinic, Sarawak General Hospital, Kuching, Sarawak, Malaysia. Her main research activity is in the area of dental fear and anxiety in paediatric dentistry and organizational learning. She can be reached through her email at easharyati@gmail.com.

Lim Woei Tatt, DDS (UKM), MFDS RCSEd, MClinDent Oral Surgery (UK) is Oral Maxillofacial Surgeon in Sarawak General Hospital, Kuching, Sarawak. His main research activity is in the field of oral cancer and dental trauma. He has published widely on these subjects in publications such as Specials Care Dentistry, Oral Diseases and Malaysian Journal of Oral & Maxillofacial Surgery. He can be reached through her email at woeitatt@hotmail.com.