

TRENDS OF DENTAL CARIES STATUS OF 12-YEAR-OLD SCHOOL CHILDREN IN SARAWAK CENTRAL REGION, SARAWAK 2015-2019

Wong Siong Ting¹, Aminuddin Mohd. Natar², Norkhafizah Saddki³

¹ Sibu Divisional Dental Office, Ministry of Health Malaysia

² Oral Health Division, Sarawak State Health Department, Ministry of Health Malaysia

³ School of Dental Sciences, Universiti Sains Malaysia

NMRR NO: NMRR ID-21-02438-USE (IIR)

Contact email: stwong@moh.gov.my



INTRODUCTION

- Dental caries is the most prevalent oral disease affecting most individuals worldwide during their life course despite being largely preventable (1)
- It shares many similar **common risk factors, social and commercial determinants with non-communicable diseases**
- The latest National Oral Survey of School Children in 2017 demonstrated that dental caries status of Sarawak school children was generally poor compared to other states (2)
- Limited data was available at divisional and district levels in Sarawak Central Region (Sibu Division, Sarikei Division, Kapit Division and Mukah Division)
- Availability of such data is imperative for evidence-based planning of school oral health care service in Sarawak with large land areas, diverse ethnicities, cultural backgrounds, and lifestyles

OBJECTIVES

- To assess **dental caries prevalence, experience and treatment needs** of 12-year-old school children (Standard 6) under the Ministry of Health Malaysia (MOH) incremental dental care (IDC) programme in Sarawak Central Region from 2015 to 2019

MATERIALS & METHODS

- Ethics approval: Medical Research Ethical Committee (MREC), MOH [Ref.: 21-02438-USE (2)]
- This was a secondary data analysis study involved **five cohorts of Standard 6 students enrolled in primary schools under the purview of Ministry of Education (MOE)** in Sarawak Central Region from 2015 to 2019 [n (2015) = 10,509, n (2016) = 10,277, n (2017) = 10,782, n (2018) = 10,767 and n (2019) = 10,398]
- Data was extracted from the **MOH Health Information Management System (HIMS) - Oral Health Sub-System**
- The diagnosis and reporting of dental caries status followed the **World Health Organization (WHO) criteria using the Decayed, Missing, and Filled Teeth (DMFT) index** by trained MOH Dental Therapists providing oral health care services to school children in Sarawak Central Region
- All data were analysed using the Microsoft Excel 2019 to generate descriptive statistics

RESULTS

- **Caries prevalence** among five cohorts of Standard 6 children in Sarawak Central Region over five-year period was constant at **about 40%**, except for 2016 (45.9%) (**Figure 1**)
- For **caries experience (mean DMFT)**, the results showed a reducing trend from **1.01** in 2015 to **0.85** in 2019
- Dental **caries treatment needs** based on the **mean decayed teeth (mean D)** also exhibited decreasing trend from **0.31** (2015) to **0.23** (2019) (**Figure 2**)

ACKNOWLEDGEMENTS

- Director General of Health, Ministry of Health Malaysia for his permission to conduct this study at the Ministry of Health premises and to present this paper in this conference (Ref.: NIH.800-5/3/1 Jld 108(26) dated 21 June 2023)
- All Divisional Dental Officers, Dental Matrons, Dental Sisters and Dental Therapists in Sarawak Central Region

DISCUSSION

- Similar trend was observed for caries experience (mean DMFT) at the national level, from 0.82 (2015) to 0.68 (2019). However, contrasting to this study finding, at the national level, caries prevalence remained static from 44.0% (2015) to 43.1% (2019) (3)
- **Despite being rendered orally-fit via incremental dental care annually since Standard 1, more than one-third of them still suffering from dental caries at Standard 6**
- The findings from this study should serve as a wake-up call for us to collectively take more pragmatic multi-sectoral approaches involving various stakeholders to address social and commercial determinants of dental caries
- All oral health care workers need to champion that all sectors are related to oral health. The best buy interventions should be established for cost-effective priority interventions for preventing common oral diseases and promoting oral health
- It is hoped that such concerted efforts can chart the way forwards for sustainable oral health and lifetime smile, while strengthening of universal oral health coverage (4, 5)

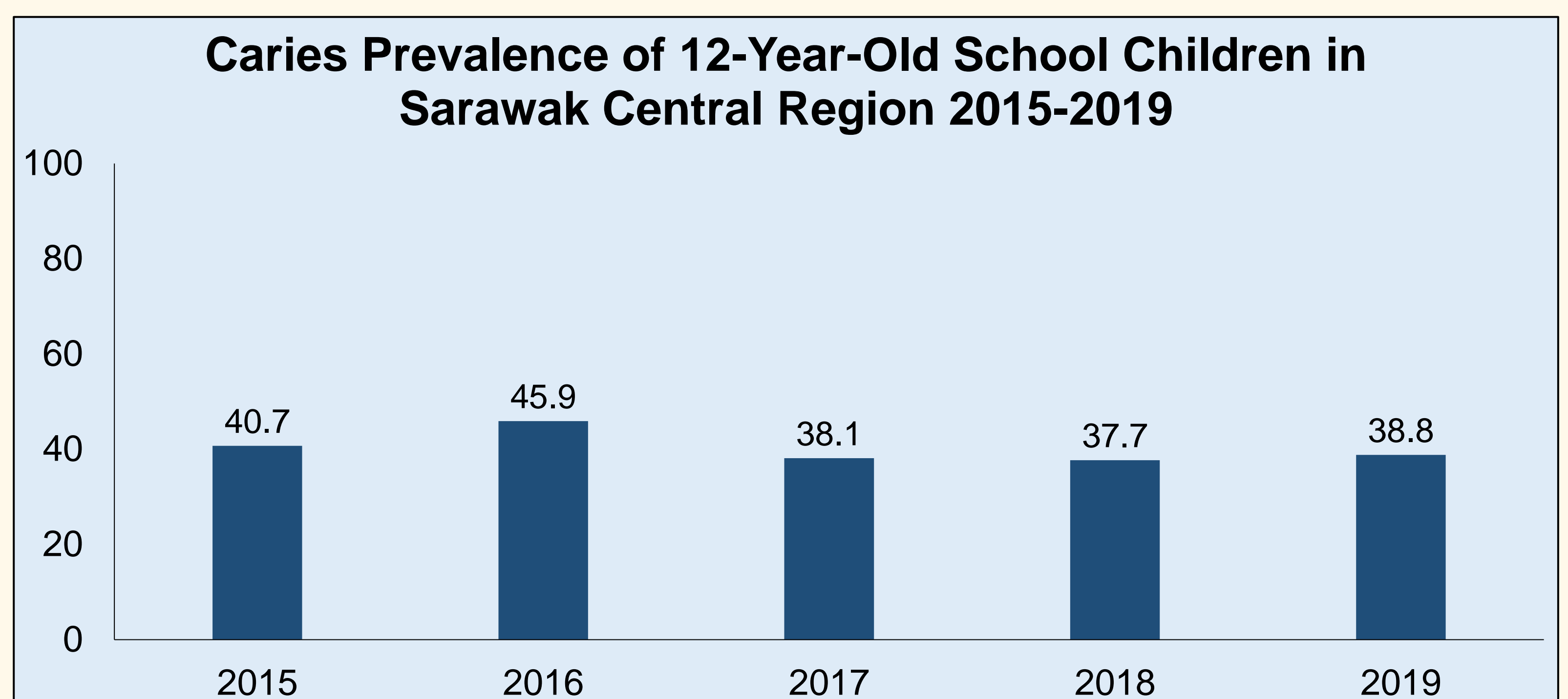


Figure 1: Caries Prevalence of 12-Year-Old School Children in Sarawak Central Region 2015-2019

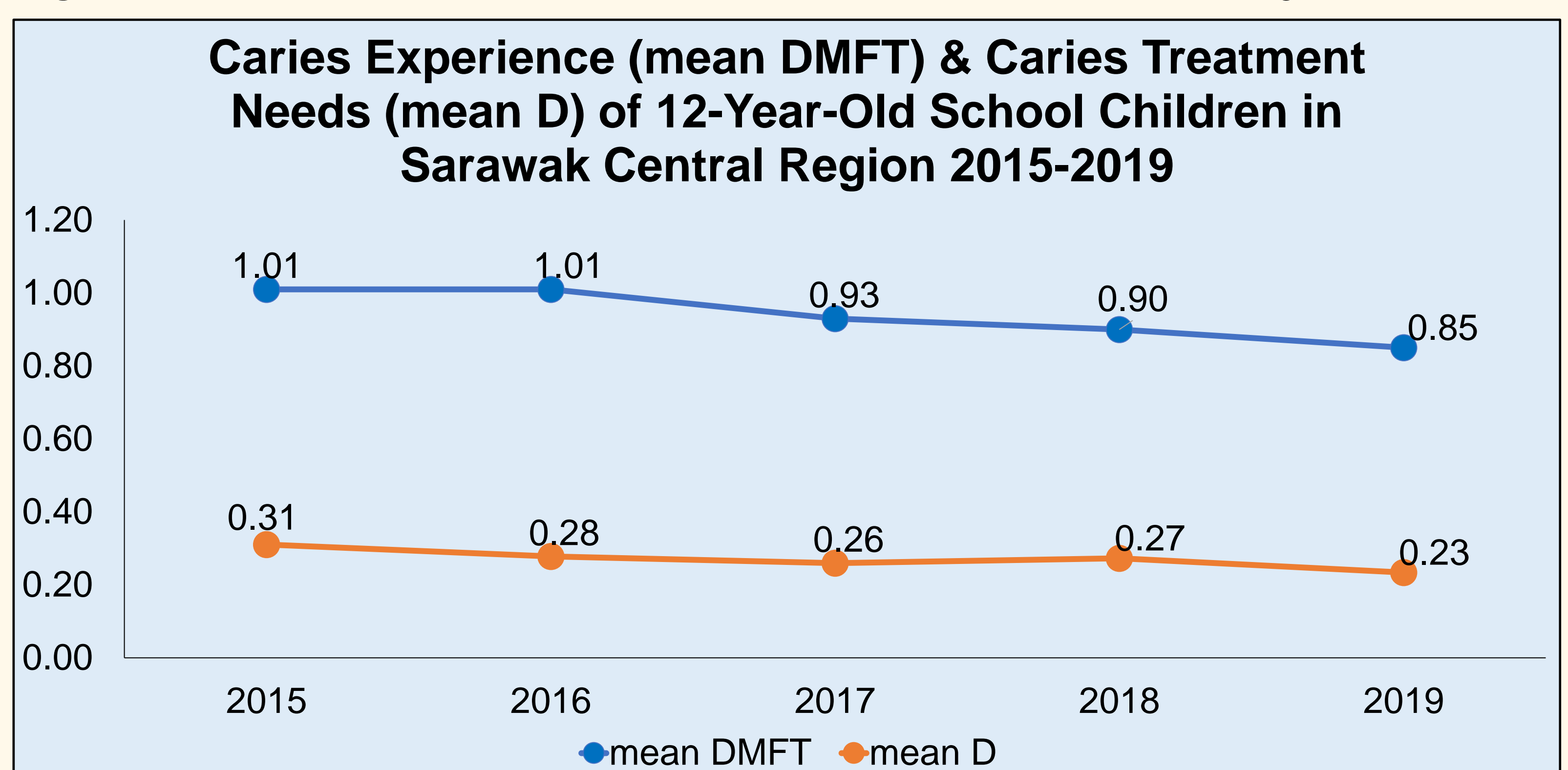


Figure 2: Caries Experience (mean DMFT) & Caries Treatment Needs (mean D) of 12-Year-Old School Children in Sarawak Central Region 2015-2019

CONCLUSION

- **Dental caries status of 12-year-olds in Sarawak Central Region was static from 2015 to 2019**
- Thus, more need to be done to ensure sustainable orally-fit status following treatment completion among school children

REFERENCES

1. Bernabe, E., Marcenes, W., Hernandez, C., Bailey, J., Abreu, L., Alipour, V., Amini, S., Arabloo, J. & Arefi, Z. (2020). Global, Regional, and National Levels and Trends in Burden of Oral Conditions from 1990 to 2017: A Systematic Analysis for the Global Burden of Disease 2017 Study. *Journal of Dental Research*, 99(4), 362-373.
2. Ministry of Health Malaysia (2017). National Health and Morbidity Survey: National Oral Health Survey of School Children 2017 (Volume 2: Oral Health Status of 12-year-old Schoolchildren). Kuala Lumpur: Institute of Public Health, National Institutes of Health (NIH) Ministry of Health Malaysia.
3. Ministry of Health Malaysia (2020). Annual Report 2019. Putrajaya: Oral Health Program, Ministry of Health Malaysia.
4. Ministry of Health Malaysia (2022). National Oral Health Policy. Putrajaya: Oral Health Programme, Ministry of Health Malaysia.
5. Ministry of Health Malaysia (2023). National Oral Health Strategic Plan 2022-2023. Putrajaya: Oral Health Programme, Ministry of Health Malaysia.