

COMMON PHYSICAL HEALTH ISSUES IN PERSONS WITH INTELLECTUAL DISABILITY: DENTAL ISSUES IN PERSON WITH INTELLECTUAL DISABILITY IN SINGAPORE

Dr Lim Guang Xu David

EPIDEMIOLOGY OF ORAL HEALTH

Dental caries and periodontal diseases, considered global pandemics, are thought to be highly prevalent in persons with Intellectual Disability (ID) within ASEAN.^{1,2,3,4} According to preliminary results in Singapore, they tend to be exacerbated in those who are older (**refer to Table I**).⁴

IMPORTANCE OF ORAL HEALTH

Having less than 20 teeth is an indicator of oral frailty, which then leads to unsustainable oral functions and an actively deteriorating oral environment.^{4,5} Poor oral health has also been linked to chronic conditions such as Diabetes Mellitus, hypertension, vascular diseases, Alzheimer's disease, Parkinson's disease, pneumonia, infective endocarditis, and failure of implantable medical devices.⁶ The systemic links are generally explained via the theory of pro-inflammatory mediators and an existential chronic inflammatory state.⁶

Facilities	Mean Age	Number Seen (n)	Mean Teeth Left (n)	Mean Decayed/ Missing/ Filled teeth	Edentulism Prevalence	Periodontal Disease Prevalence	Average Dental Treatment Needed in Those with Teeth			Service Considerations	
							Extraction per Pax (n)	Fillings per Pax (n)	Scaling/ Periodontal Therapy (%)	Wheelchair Users	Needing Sedation or GA
PwID in a Private Dental Service	16.7	24	26.9	1.5/0.3/0.8	0%	0%	0.7	1.3	87%	8.3%	37.5%
Autism Day Centre	21.7	24	28.1	0.1/0.5/0.2	0%	0%	0.2	0.2	67%	0%	33%
PwID Training Centre 1	27.1	30	23.1	1.8/3.8/0.9	0%	23.3%	1.9	0.83	55%	0%	37%
PwID Training Centre 2	28.3	26	26.5	1.3/1.7/0.3	0%	28%	1.3	0.6	76%	0%	35%
PwID Day Centre	30.2	30	25.4	3.2/2.1/0.8	0%	33.3%	2.2	1.5	76%	13%	30%
Mixed Disability Day Centre	31.3	29	-	2.8/2.0/2.0	0%	-	2.7	3.2	72%	52%	14%
Employment Centre for PwID	32.1	163	24.7	1.8/3.2/1.4	3.1%	26.3%	1.7	1.6	86%	0%	4.3%
PwID Residence 1	48.9	101	13.2	4.4/9.6/0.5	13%	42.5%	4.0	1.3	82%	6.9%	15%
PwID Residence 2	52.2	103	12.3	3.5/14/0.5	22.4%	48%	3.1	1.3	85%	35%	34%

Table I. Comparison of Age, Oral Health Status, and Service Considerations for PwID Facilities in Singapore (updated from Lim & Yang, 2020)

DENTAL PROBLEMS AND BARRIER

Persons with ID have a propensity to present with poorer oral health outcomes than the average person due to six categories of potential barriers: cooperation, communication, medical complexities, oral disease risk (e.g., daily brushing, healthy diet), accessibility to dental services, and ethical-legal barriers.³ In particular, those with syndromic or genetic disorders present with a mix of complexities that can affect dentistry. For example, congenitally malformed teeth that increase the risk of disease and cardiac defects require antibiotic prophylaxis prior to extractions. Anti-epileptic medications may result in a unique presentation of periodontal disease known as gingival hyperplasia, obstructive sleep apnea that lead to bruxism.⁶ As every person with ID presents with different dental issues, it is important to gather information, assess, and plan individually. Therefore, cross-disciplinary communication is paramount; this could be between family physicians, medical specialists, dentists, allied health professionals, social workers, and the caregiving circle of the persons with ID. One such example would be collaborations between MINDS and other social healthcare organisations in managing the healthcare needs of persons with ID (refer to Figure I).⁷



Figure I. Cross-disciplinary work – MINDS optometry support for a sedated person with ID during a domiciliary dental visit.

DR LIM GUANG XU DAVID
Dentist, Tzu Chi Free Clinic, Buddhist Compassion Relief
Tzu Chi Foundation Singapore
Visiting Clinician, Geriatrics and Special Needs Dentistry
Clinic, National Dental Centre, Singapore
Adjunct Lecturer, Oral Health Therapy, Nanyang Polytechnic,
Singapore

REFERENCES

1. Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019. Seattle: Institute of Health Metrics and Evaluation (IHME); 2020. Available from <http://ghdx.healthdata.org/gbd-results-tool>.
2. Lim GXD. Disability and Oral Health in ASEAN A Conversation for Conceptualisation of Barriers to Comprehensive Care. Poster Presented - Asian Association of Disability and Oral Health. Apr 2019. Available from https://www.researchgate.net/publication/345603260_Disability_and_Oral_Health_in_ASEAN_A_Conversation_for_Conceptualisation_of_Barriers_to_Comprehensive_Care#read
3. Teo CHK, Mahesh M, Lim GXD. Oral health status and barriers to care in a multiethnic mixed disability center: Rethinking disability community dental services. *Spec Care Dentist*. 2020 Jul;40(4):344-355. doi: 10.1111/scd.12483. Epub 2020 Jun 5. PMID: 32501578.
4. Lim GXD, Yang JR. Oral Health Status of Adults with Disabilities in Singapore Preliminary Results of CASA-MODAL. Poster Presented - International Association of Disability and Oral health. Sep 2020. DOI: 10.13140/RG.2.2.36269.51680. Available from https://www.researchgate.net/publication/345602881_Oral_Health_Status_of_Adults_with_Disabilities_in_Singapore_Preliminary_Results_of_CASA-MODAL#read
5. Tanaka T, Takahashi K, Hirano H, Kikutani T, Watanabe Y, Ohara Y, et al. Oral Frailty as a Risk Factor for Physical Frailty and Mortality in Community-Dwelling Elderly. *J Gerontol A Biol Sci Med Sci*. 2018 Nov 10;73(12):1661-1667. doi: 10.1093/gerona/glx225. PMID: 29161342.
6. Diz Dios P, Kumar N. A Practical Approach to Special Care in Dentistry. UK: Wiley-Blackwell; 2022. ISBN 978-1-119-60007-7.
7. Lim GXD. Domiciliary Dental Treatment under Oral Sedation for a Senior with Learning Disability and Agoraphobia – a Case Report. *SAAD Digest*, 2022;38:98-102.