

Challenges in emergency oral health care provision in COVID-19 lockdown period

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Abstract

Introduction COVID-19 pandemic denotes an unprecedented public health emergency impacting on health care systems, economies and people across the globe. Health care systems have been grappling with rising burden of COVID-19 that transformed prioritization of treatment services for triaging, risk stratification and emergency treatment provision. Sri Lanka as a lower-middle-income developing country was able to harness its strong public health infrastructure for the prevention and control of COVID-19. Nevertheless, ensuring availability and accessibility to preventive oral health care services to children with high caries risk presented with emergencies such as dental pain becomes a formidable challenge in COVID-19 lock down environment.

Objective The present study explores challenges encountered and benefits obtained by emergency management services offered by National Dental Hospital (Teaching) Sri Lanka for children with high caries risk in the peak of COVID-19 lockdown period.

Methods A cross sectional descriptive study in the Preventive Oral Health Unit (POHU), National Dental Hospital for a period of one month using available records at POHU.

Results Most of the children came due to toothache and the most common treatments were health education and pain relieving.

Discussion Due to the novelty of the problem, guidelines and instructions were not sufficient to overcome the situation. Frequent discussions within the team and with the administrators helped to ease out the problems, to identify the roles and responsibilities and to express new ideas and concerns. Positive attitude of the staff was one key feature highlighted during the period.

Conclusion Relieving pain and providing emergency management was a great service to the patients. Team work and collective approach was significant to address a new challenge. Availability of buffer stocks would facilitate an uninterrupted patient care service.

Introduction

COVID-19 created an unprecedented global public health emergency transforming health care delivery towards triaging and redefining of treatment priorities¹. Provision of much needed essential and emergency healthcare services for patients while re-directing resources for managing COVID-19 epidemic

has become the overarching goal of health administrators. Sri Lanka is a lower-middle-income-developing country, possessing an efficient pro-poor public health care delivery model². Oral health care provision is integrated into the public health care delivery model from outpatient dental care to specialized care³.

Oral health is fundamental to performing vital daily functions such as eating, speaking and sleeping and considered as a fundamental human right⁴. Early childhood dental caries (ECC) denotes one of the most common chronic childhood diseases⁵. Consequently, such conditions give rise to emergency visits of children having dental pain and swelling⁶. Less optimal oral hygiene practices, cariogenic dietary patterns and lack of accessibility to preventive oral health care services are the major determinants of dento-alveolar infections among children⁷. Untreated childhood dental caries hence, constitutes one of the common unmet health needs in children especially from socially disadvantaged and culturally diverse backgrounds⁸. Preventive oral health unit caters to high caries risk urban children in the Colombo Municipal Council area^{9, 10} which was identified as one of the high risk zones for COVID-19 epidemic in the Colombo district.

Objective

The present report explores the challenges faced by the Preventive Oral Health Unit of the National Dental Hospital in the provision of emergency oral healthcare for children during the peak of lockdown period.

Methods

The study was a descriptive cross sectional study. The study setting was the Preventive Oral Health Unit (POHU), National Dental Hospital (Teaching) Sri Lanka and the duration was for a period of one month from 6th April 2020 to 5th May 2020. The data were extracted from the existing records in the pharmacy (surgical and medicine) and performance statistics of Preventive Oral Health Unit (POHU), from 6th April to 5th May from a random sample of visits. Extraction of data was done by the dental surgeons working in the POHU. Data were entered and analysed by using SPSS-21 statistical software package.

Discussions were held with the staff members of the POHU and key informant interviews were held with the consultant of the unit and the deputy director of the hospital.

Results

Figure 1 and Figure 2, show presenting complaints and types of emergency management services provided respectively for 27 visits of children with ages ranging from 2 to 7-years. Accordingly, the majority, 66.7% of children's visits were due to tooth ache with or without facial swelling. Consequently, 85.2% visits needed prescribing antibiotics and analgesics combined with other necessary treatment procedures. Dietary counseling and brushing advice were provided for 100% of visits.

All these patients were presented with acute pain and pain relieving was the main aim of the treatment.

Discussion

With the start of the pandemic and the lock down period the whole society, especially the dental care professionals were in a state of confusion as it was not clear "what to do and what not to do". Ministry of health and Sri Lanka Dental Association published guidelines and instructions for the dental practitioners. However, those were not sufficient for the functional problems that came across in different clinical situations. POHU problem was unique as there is no other Preventive Oral Health Unit in any other hospital in the country. As a result POHU was not in a position to share experience or to have a dialog. In this context POHU had to depend on the guidelines available in Sri Lanka and the internationally published articles. Frequent staff discussions were held to gather ideas of the team members and to answer different concerns of different members of staff.

All parental care givers and children were triaged with history taking and temperature checks at the main entrance conducted by Nursing Officers supported by Health Assistants. This procedure was repeated at the waiting area of POHU and a detailed history was taken in relation to COVID -19 exposures. While inside the clinic, history was taken in relation to the presenting complaint. Children who made emergency visits for dento-alveolar infections were attended by dental surgeons adhering to appropriate cross-infection control procedures and personal protective equipment (PPE). While prescribing antibiotics and analgesics, dietary and brushing advices highlighting the need for fluoride toothpaste use, night brushing and healthy dietary pattern were emphasized. Moreover, fluoride gel and varnish

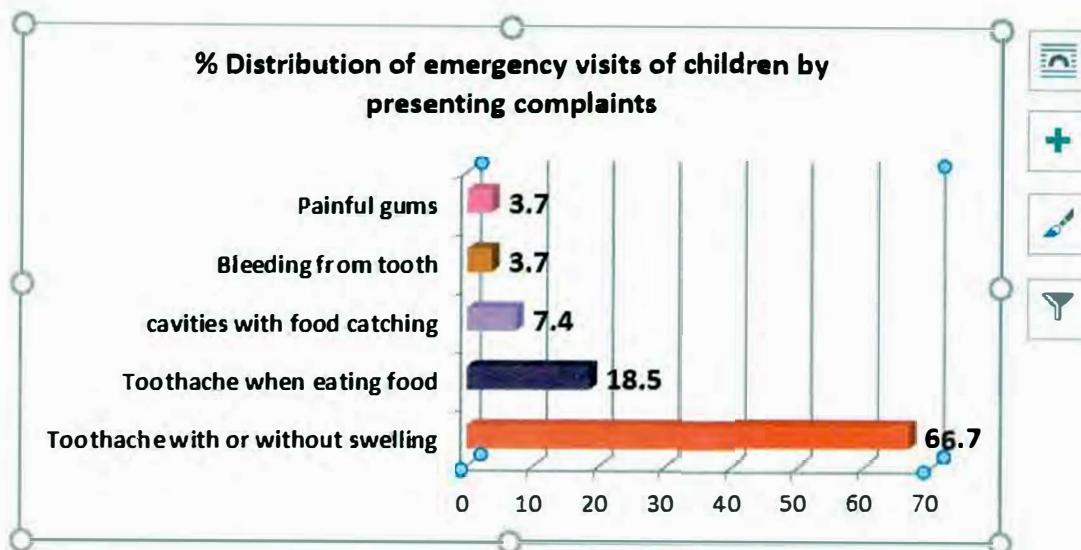


Figure 1: Distribution of emergency visits of children by presenting complaints

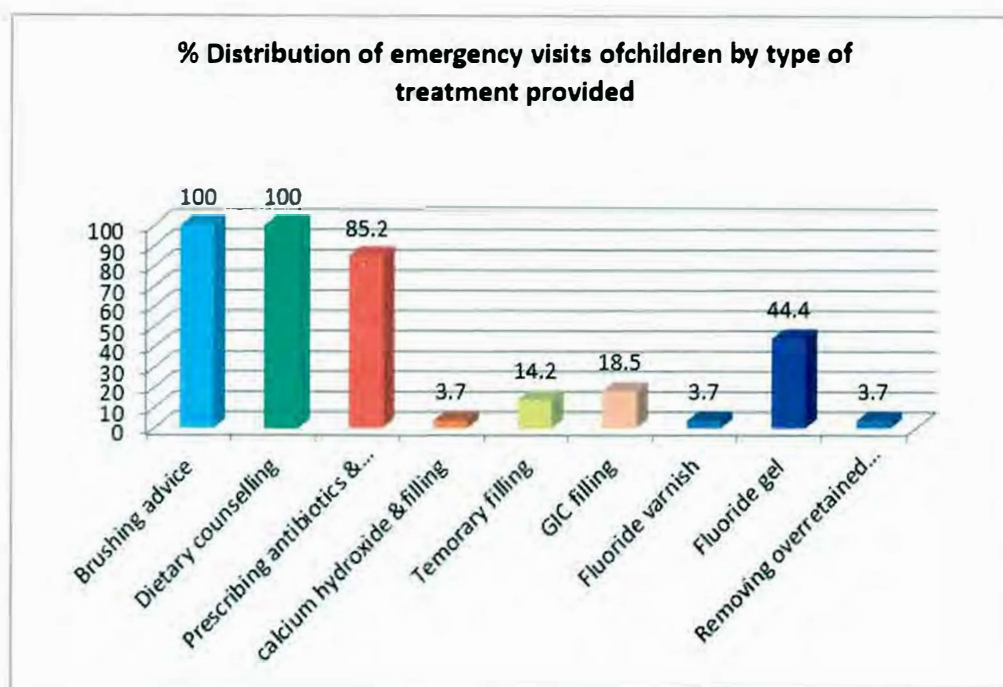


Figure2: Distribution of emergency visits of children by type of treatment provided

applications, simple fillings and fissure sealant applications were performed for selected children while addressing their painful teeth to augment further prevention of emergency dental visits due to acute exacerbations of dento-alveolar infections. This fostered *stay-home-stay-safe* strategy fundamental to containment of spread of COVID-19.

Most of the children (66.7%) presented with toothache. However, in April 2019 statistics showed that only 33.2 % children presented with toothache. This showed that the patients had waited till the end stage of the caries process which results in unbearable pain. Fluoride gel application is a standard preventive treatment that was carried out for about 70% of the patients who visited in April

2019. In the present study period, it has reduced to 44.4% which shows that pain management had become the priority during the period (85.2%).

Few children had repeated antibiotic and analgesics for repeated episodes of pain which got aggravated at night resulted in making late night emergency visits to the emergency treatment unit. Other children developed toothache while eating food that needed special advice and management. However, the absence of provision of routine services on comprehensive management of advanced childhood dental caries such as pulp therapy appeared problematic. Consequently, managing dental pain of some children became challenging. Furthermore, prevailed transport problems and allocation of health assistants for priority services at Infectious Disease Hospital and other hospitals with COVID-19 care provision resulted in unavailability of supportive staff at times.

Wearing full overalls with masks and face shields made the hospital staff looks like astronauts. This appearance scared off the already frightened children. Moreover, it made life difficult for the clinicians as the face shields were getting covered with moist of expiration. Therefore, treatments that needed long chair side time were made impossible. Additionally, extra efforts were needed to get the compliance of the children.

POHU has been emphasizing in atraumatic dental treatment as a practice. Therefore, the clinicians are familiar to work without using the dental hand piece. This practice was helpful as the guidelines suggested to withdraw from aerosol generating procedures.

Records at the pharmacy indicated that there were many requests for the local purchase of medical and surgical items. However, only few had been purchased as there was a lack of office staff due to the lock down situation.

Conclusion

Relieving dental pain and consequences of advanced early childhood dental caries by providing emergency management services during COVID-19 lock down period was a formidable challenge. However, willingness of the staff, their commitment and the frequent discussions helped to overcome the situation. It showed that circulars and guidelines alone are not sufficient and the attitude is very important in facing difficult situations. Most

children were benefited by the care given by the POHU. If the Dental hospital had a buffer stock POHU would have been able to give a better uninterrupted service. The need for re-commencement of routine preventive and conservative dental treatment for high caries children with strict adherence to optimal safety measures seems an emerging need.

References

1. Schrag D, Hershman DL, Basch E. Oncology practice during the COVID-19 pandemic. *JAMA*. <https://jamanetwork.com/> on 05/02/2020.
2. Smith, O. 2018. "Sri Lanka: Achieving Pro-Poor Universal Health Coverage without Health Financing Reforms". Universal Health Coverage Study Series No. 38, World Bank Group, Washington, DC.
3. National Oral Health Survey Sri Lanka 2015-2016. Colombo: Ministry of Health, Nutrition and Indigenous Medicine (Sri Lanka); 2018.
4. Perera I, Kruger E, Tennat M. GIS as a decision support tool in health informatics: spatial analysis of public dental care services in Sri Lanka. *Journal of Health Informatics in Developing Countries* 2012;6(1): 422-433.
5. American Academy of Pediatric dentistry Definition. (2008). Definition of Early Childhood Caries (ECC). American Academy of Pediatric Dentistry, 4(age 3), 15. Retrieved from http://www.mychildrensteeth.org/assets/2/7/D_ECC.pdf. [Accessed 27th April,2020].
6. Azodo CC, Chukwumah NM, Ezeja EB. Dento-alveolar abscess among children attending a dental clinic in Neigeria. *Odonto-stomatologie tropicale* 2012;35(139):41-6.
7. Ending childhood dental caries: WHO implementation manual. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0IGO.
8. Isong I, Dantas L, Gerard M, Kuhlthau K. Oral Health Disparities and Unmet Dental Needs among Preschool Children in Chelsea, MA: Exploring Mechanisms, Defining Solutions. *J Oral Hyg Health*. 2014;2:1000138. doi: 10.4172/2332-0702.1000138. PMID: 25614878; PMCID: PMC4299657.

9. Perera IR, Wickramaratne PWN, Liyanage NLP, Karunachandra KNN, Bollagala AD, Kottahachchi MJ, Wimalasena BASS, Bandara MD, Hewawitharana HICS., Rajapakshe, PGKS. Preventive dental clinic solutions to tackle early childhood dental caries. National Institute of Health Sciences, Kalutara. International Conference on public health innovations 2013. Conference programme and abstract book, p.55.
10. Perera IR, Herath CK, Perera ML, Dolamulla SS, Jayasundara Bandara JMW. Service delivery of a preventive oral health care model to high caries risk urban children in Sri Lanka: a retrospective descriptive study. British Journal of Medicine & Medical Research 20(3): 1-10, 2017; Article no.BJMMR.27386. ISSN: 2231-0614, NLM ID: 101570965