

Review Article

A review on the school dental services in Sri Lanka

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ABSTRACT

The school dental program in Sri Lanka is operated under the Ministry of Health (MOH) in collaboration with the Ministry of Education to improve the oral health of schoolchildren. The Oral Health Unit of the Family Health Bureau (FHB), which is under the MOH, is the national focal point for the provision of school dental services. This program provides health promotion activities to prevent the most common oral diseases among schoolchildren and treatment of existing diseases. Preventive measures focused on schoolchildren are the most cost-effective measure to improve the oral health of schoolchildren and will reduce the cost of oral healthcare in adulthood. School dental therapists (SDTs) play an important role at the point of service delivery by executing oral health promotion, screening, preventing, treating, and referring for an appropriate level of care. The objective of this review is to explore the school dental services provided under the Oral Health Unit to provide recommendations for improvement. Data collection was done from July 2023 to August 2023. Qualitative data were collected through semistructured key informant interviews. In addition, a desk review was done to collect secondary data available at the Oral Health Unit, FHB, to explore the present situation of the services. Data were analyzed using the content analysis method. “Inadequacy of service coverage” was identified as the main problem in school dental services in Sri Lanka, leading to a higher prevalence of untreated oral diseases among schoolchildren. The root causes for this problem were mainly human resource related. Other root causes were related to financial support, infrastructure, resource allocation, and processes. This review proposes human resource-related strategies to address those root causes. This recommends increasing the human resources for the service coverage, motivating the SDTs and developing their capacity to deliver the service at the point of care.

Keywords: School dental program, Oral health, Dental therapists, Child health, School health

INTRODUCTION

School dental program in Sri Lanka is operated under the Ministry of Health (MOH) to improve the oral health of schoolchildren. It provides oral health promotion activities to prevent the most common oral diseases among schoolchildren and treatment of existing oral diseases. School dental services are provided based on schools in collaboration with the Ministry of Education. These services are under the governance of the “National Maternal and Child Health Policy of Sri Lanka – 2012” and the “National Strategic Plan on Child Health in Sri Lanka 2018–2025.”

The Oral Health Unit of the Family Health Bureau (FHB) is the national focal point for the provision of school dental services. These services are directly under the supervision of the Medical Officer of Health (MOoH) of the area and the technical guidance of the regional dental surgeon (DS) and the supervising school dental therapists (SDTs). At the provincial level, these services are supervised by consultants in Community Dentistry only in Western and Sabaragamuwa provinces.

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Preventive oral health services are provided mainly by SDTs through school dental clinics (SDCs) for children between 3 and 13 years of age. SDTs play an important role at the point of service delivery by executing oral health promotion at the school level, screening the schoolchildren for oral health conditions, and preventing, treating, and referring needy children for an appropriate level of care. Having one SDC per MOoH area is the present norm. SDTs are allocated to SDCs in “base schools,” and their services are provided to the “feeder schools” through mobile clinic services. At present, there are 459 SDCs in Sri Lanka, and the services are provided by 356 SDTs employed under the nine Provincial Ministries of Health. Oral healthcare for schoolchildren over 13 years and treatment facilities for all the children are provided by DSs in adolescent dental clinics.

In Sri Lanka, school dental services include oral health promotion activities targeted at children, teachers, and parents, screening schoolchildren for the most common oral diseases, providing treatment facilities, and referring children for treatment and follow-up by DS. There are two main preventive health programs implemented through SDCs for high-risk children. They are “Fluoride Varnishing” for children more than 3 to <5 years of age and “Fissure Sealant program.” These two programs are monitored and evaluated by the Oral Health Unit of the FHB.

In a national-level program, service coverage plays an important role in achieving health outcomes. Vaz *et al.*, described “six components of the pathway to high effective coverage” [Figure 1].^[1] Improving the service coverage will contribute to reducing the prevalence of untreated oral diseases. This article aims to explore the school dental services provided under the Oral Health Unit of the FHB to provide recommendations to improve the services.

MATERIALS AND METHODS

A descriptive study was conducted. Data collection was done from July 2023 to August 2023 to gather data on the present situation of the services, problems in service delivery, root causes for those problems, and possible solutions to improve the problems. Qualitative data were collected through five key informant interviews with the Consultant in Community Dentistry, the Oral Health Unit, the FHB, and the relevant staff in the unit. A semi-structured interview guide was used, and data were collected to the point of saturation.

In addition, a desk review was done using a data extraction sheet to collect secondary data available at the Oral Health Unit, FHB. A literature search was done on previous Sri Lankan literature on electronic libraries and unpublished data at the Oral Health Unit. Data were coded and analyzed using the content analysis method using “NVivo-12 pro software.” The main problem in school dental services

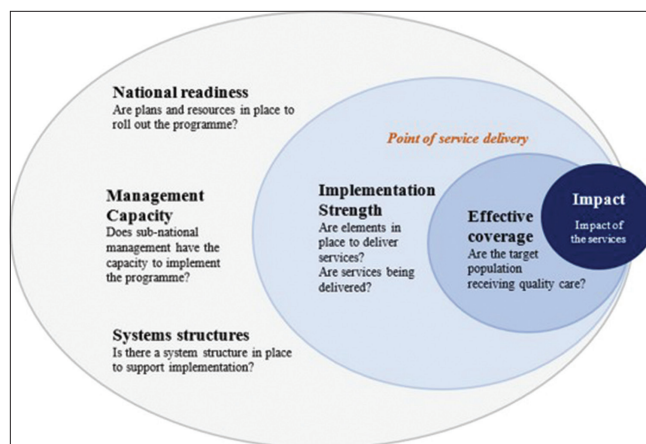


Figure 1: Service coverage based on the “six components of the pathway to high effective coverage.”

in Sri Lanka was identified and it was analyzed using a fishbone diagram analysis with the help of key informants and a brainstorming session with experts in Medical Administration to identify its root causes. Proposals were developed to address the root causes following discussions with the experts in Medical Administration. Based on these proposals, recommendations were made, and an implementation plan was developed to improve the school dental services in Sri Lanka.

RESULTS

This review identified a significant inadequacy of service coverage of school dental services in Sri Lanka with a higher prevalence of untreated oral diseases among schoolchildren. In the year 2021, only 33.5% of the target group of schoolchildren had been screened for oral health problems. It was identified that 17.6% of the target group needed treatment for oral health conditions. Based on that, in Sri Lanka, the two national level components, i.e., national readiness and systems structures, are available to provide adequate coverage for school dental services [Figure 1]. Service coverage is affected at the subnational level due to deficiencies in management capacity to implement the program and at the point of service delivery due to deficient implementation strength and effective coverage. This problem of the inadequacy of service coverage of school dental services in the country was explored further to identify the following root causes.

1. Severe shortage of SDTs in Sri Lanka to provide services at the point of care delivery. As highlighted by the key informants, there is inadequate production of SDTs by the Sri Lankan health system. At present, there is only one training unit under the Education, Training, and Research Unit of the MOH. The SDTs are trained and awarded a Higher Diploma

after two years of training. The absence of regular intakes for training despite cadre availability and lesser numbers of trainees to intake due to inadequacy of training facilities had contributed to this shortage.

2. Mal-distribution of SDTs among districts was observed with the highest number of SDTs in Colombo and the lowest in Mullaithivu.
3. Poor motivation of SDTs due to higher workload and unavailability of a prosperous career pathway, incentives, or allowances for transportation during mobile clinics.
4. Inadequate training of SDTs to enter monthly performance data into the web-based information system (i.e., electronic reproductive health management information system [eRHMIS]). This has affected the timeliness and the accuracy of data received by the national focal point to monitor the field-level performance.
5. Inadequate financial support to improve coverage. At present, the school dental services are funded by the Government of Sri Lanka and the Primary Healthcare System Strengthening Project. For 2024, it is planned to obtain foreign-funded projects to improve the services. Funds for infrastructure development and maintenance are from the funds allocated to the schools by the Ministry of Education.
6. Inadequate infrastructure facilities in schools for SDC. These facilities are maintained by the Ministry of Education. It is observed that a low priority is given to maintenance and repairs.
7. Inadequate administrative support for mobile clinics. Transport and other facilities for mobile clinics are provided by the relevant MOoH. A difficulty in allocating facilities to arrange mobile clinics is noticed, which has adversely affected the service coverage.
8. Inadequate monitoring of service coverage. School dental services are monitored at the national level by the Oral Health Unit of FHB through the data gathered from the eRHMIS. The services are evaluated through annual performance reviews. However, district-level and MOoH-level monitoring and evaluation of the services have to be improved.
9. Inadequacy in the feedback mechanism. Feedback on the performance of school dental services is provided by publishing the summary data of performance in the oral health report and the annual health report of the FHB. Further, feedback is given to SDTs during annual performance reviews. However, more focused feedback on the performance more frequently will facilitate improving the services.

The main root causes for the “inadequacy of service coverage of school dental services in Sri Lanka” are identified as human resource related. It was identified that improvement of school dental services is the most cost-effective method to achieve improved oral health among schoolchildren. It can

Strategy	Activities
1. Increasing human resources to ensure service coverage of school dental services	1.1. Addressing the shortage of SDTs 1.1.1. Recruiting regular intakes for the higher diploma 1.1.2. Increasing capacity of the training institutions under the Ministry of Health as a long-term measure 1.2. Methods to improve retention of SDTs 1.2.1. Establishing career pathway for SDTs as a long-term measure 1.3. Redistribution of SDTs according to the service need
2. Motivation of SDTs	2.1. Provision of incentives or allowances for transportation during mobile clinics 2.2. Service recognition programmes 2.3. Regular feedback on the coverage
3. Capacity development of SDTs	3.1. Regular in-service programmes organized at all levels 3.2. Experience sharing sessions to learn from best practices

Figure 2: Strategies and activities to improve the service coverage of school dental services. SDTs: School dental therapists

be achieved by addressing the identified human resource-related root causes which would contribute to addressing the inadequacy of service coverage. This study proposes human resource-related strategies to improve the service coverage of school dental services.

Since the main root cause identified was human resource related, the following strategies and activities illustrated in Figure 2 were identified to improve the service coverage of school dental services in Sri Lanka considering the technical, administrative, financial, and practical feasibility of addressing the root causes, impacts of the root causes, and the time factor to introduce interventions.

DISCUSSION

The school dental program in Sri Lanka is operated under the MOH in collaboration with the Ministry of Education. It is the most cost-effective measure to improve the oral health of schoolchildren through the prevention of the most common oral diseases and treatment of existing oral diseases. This, in turn, will reduce the cost of oral healthcare in adulthood. Similar to the previous Sri Lankan literature,^[2] this review identified the “inadequacy of service coverage” as the main problem in school dental services in Sri Lanka. The root causes for this problem were mainly human resource related. The same had been identified in a previous Sri Lankan Study.^[2] Other root causes were related to financial support, infrastructure, resource allocation, and processes. This study proposes human resource-related strategies to address those root causes similar to previous literature.^[3,4] This recommends increasing the human resources for the service

coverage, motivating the SDTs, and developing their capacity to deliver the service at the point of care. These strategies can be implemented through the long and short-term activities as suggested in the implementation plan. Addressing the shortage of SDTs, implementing methods to improve retention of SDTs and the redistribution of SDTs according to the service need will increase the service coverage directly. Motivation of SDTs through the provision of incentives, service recognition, and tailored feedback will improve the service delivery at the point of care, which in turn will improve the coverage of the services. In addition, the capacity development of SDTs through in-service programs and experience-sharing sessions will improve the quality of service provision. However, increasing financial support through the MOH, infrastructure, other resource allocation, and process improvement measures is also needed to address the other root causes of the problem.

CONCLUSION

This review identified an inadequacy of service coverage in school dental services in Sri Lanka mainly due to shortage of SDTs, which needs human resource related strategies for service improvement.

Ethical approval

Institutional approval was obtained.

Declaration of patient consent

Patient's consent is not required as there are no patients in this study.

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Nil.

Conflicts of interest

There are no conflict of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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