School Dental Therapists' Services in Sri Lanka: An overview

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Abstract- School Dental Therapists services in Sri Lanka commenced in 1951 with the mission to provide primary oral health care for children. Since then the services have evolved and currently provide primary oral health services to children in most schools of the government sector. The situation of inadequate coverage of services has impinged the demand to increase the number of School Dental Therapists in Sri Lanka. The possible reasons for the shortage are recruitment procedures that take place biennially and poor coordination among sectors that carry out the recruitment process which results in delays and the inadequate number of recruits for each draft of trainees. Therefore, possible interventions for improving the shortage are regular recruitment annually and increasing the intake biennially while maintaining the quality of training while ensuring adequate number of intakes for training and deployment.

Index Terms- School Dental Therapists, Sri Lanka

I. Introduction

The "unorthodox" concept of school clinics operated by dental hygienists to care for children between 6-14 years was proposed in 1913 by Dr. Norman K. Cox, the President of the New Zealand Dental Association. It was proposed to address the dental needs of children between the ages of 6 to 14 years which was approved due to the rejection of New Zealand troops for World War I due to poor dental conditions [1]. Thereafter many countries followed the New Zealand system and adopted programmes to provide dental care for children. As the profession evolved many countries have adopted variations to the programme.

In Australia, Dental Therapists are replaced by Oral Health Therapists that carry out the role of Dental Hygienist as well as Dental Therapists with more focus on prevention of oral diseases and promotion of oral health. The average number of years for training is around 2 years to provide preventive and restorative dental care. In some countries, training is being extended to 3 years to incorporate both dental therapy and dental hygiene, and to provide treatment for adults as well as children.[2]

The Dental Therapists in New Zealand cares for children below 18 years and carry out duties of examination and routine dental treatment and prevention work. The Dental therapist in the USA is considered a member of the oral health care team and provides preventive care. In the UK the dental therapist is part of the community dental profession and carries out examinations, taking radiographs, restorations, preventive strategies such as fluoride application, fissure sealants, oral hygiene instructions and dental health education for children.

The following tasks could be considered as regularly carried out by Dental Therapists all over the world.

- Providing education to children with dental diseases, their parents and communities on progression and prevention of dental diseases as well as maintaining good oral hygiene.
- Carrying out oral examination and screening for oral diseases.
- Providing dietary advice and assist to modify any risk factors for dental diseases.
- Treating diseased teeth by fillings and extraction of deciduous teeth under local anaesthetic, perform pulpotomy treatment on indicated deciduous teeth, take radiographs of the patient's teeth, provide dental sealant protection when necessary, administer fluoride therapy and provide a professional clean.
- Referring to a dentist when a problem becomes complex
- Recommending healthy options in school canteens for students and staff.
- Being a part of the school medical team and giving oral hygiene instructions to classes and communicating with other health care providers in immunisation clinics and maternal health care nurses.
- Filing and recording information about children's teeth

Dental Public Health is an important discipline that contributes to improving the oral health status of Sri Lankans that results in a reduction of the colossal dental care cost of the health budget. School dental therapists play a vital role in the Dental Public Health care component by caring for children between the ages of 3-13 years based in Pre Schools and Schools. The School Dental Therapists are attached to the Medical Officer of Health units of each district and are administered by the Regional Director of Health Services. The technical supervision is carried out by the Supervising School Dental Therapists with directions from the Regional Dental Surgeon in the Regional Director of Health Services office.

The objective of this report is to discuss the current availability of the School Dental Therapists Services in Sri Lanka and make recommendations to improve the services further.

II. Discussion

Key informant interviews and desk review of the literature were carried out in preparing this report and the findings are discussed below.

The School Dental Services in Sri Lanka is mainly carried out by the School Dental Therapists with a focus to reduce morbidity due to common oral diseases among preschool and school children between the ages of 3years to 13years. The targeted groups of school children are children in grades 1,4 and 7. The norm for the ratio between a Schol Dental Therapist to the student population is 1:2000 [3].

Table1: Distribution of dental therapists through the years from 2014-2018 in Sri Lanka (*Source: FHB, Oral health unit)*

Year	No. of SDT	No.of students per SDT
2014	379	3733
2015	383	3035
2016	382	3163
2017	393	3278
2018	369	3326

The average number of students per dental therapist shows an increasing trend in the table shown above. Though the norm is 1:2000, the number of students for a single dental therapist is 3326. The ideal number of Dental therapists according to the norm should be 614 though it is 369 in 2018. Though the cohort of the number of students each year has increased the number of SDTs has not increased (Table1).

As shown in Table 2 below, the screened percentage of the target group is 76% for 2018 and the coverage percentage achieved is 68% which is the percentage of children whose treatment has been completed of the screened population. This means that 24 children are left out for every 100 children and out of 100 children treatment of 32 have not been completed by 13 years. Considering the percentage of children with caries it shows an increase by the ages from 10 years to 13 years, 9% to 17% respectively. The children are not regularly screened after this age group unless an Adolescent clinic is available which is around 81 for the whole country. Considering the condition of periodontal health by the number of children with calculus it is evident that the percentages are increasing over the grades. The overall performance of SDTs does not show many changes for the past 5 years.

Table2: The performance of Dental therapists over the years from 2014-2018
(Source: FHB, Oral health unit)

Year	% of children with caries				% of children with calculus			children screened %	Coverage % (Out of the number screened)
	Grade1	Grade4	Grade4 (permanent teeth)	Grade7 (Permanent teeth)	Grade1	Grade4	Grade7		
2014	58%	57%	7%	18%	2%	12%	19%	78%	69%
2015	54%	55%	9%	19%	2%	13%	18%	75%	66%
2016	56%	57%	9%	18%	1%	14%	18%	73%	63%
2017	56%	56%	7%	15%	1%	13%	17%	77%	67%
2018	57%	58%	9%	17%	1%	13%	18%	76%	68%

III. The recruitment and training of SDT

The recruitment for training is a collaborative effort by the Education, Training and Research unit, Human Resources unit and the establishment unit of the Ministry of Health. The minimum qualifications required include 5 credit passes including English for the Ordinary Level examination, a credit pass for Biology along with at least simple passes for other two subjects in one sitting at the Advanced Level examination of the selected year, and a minimum height of 4 feet 10’ (147.3cm). Common

recruitment is carried out with other paramedical and professions supplementary to medicine.

The SDT training in Sri Lanka commenced in 1951 and the training was conducted in the New Zealand school of School Dental therapists, New Zealand. From 1955 the training was conducted in Sri Lanka with trainers from New Zealand under the administration of a New Zealand Dental Surgeon named Dr. Rice. The premise for the school was donated by Sir John Kotalawa a former Prime Minister of Sri Lanka and the infrastructure was built by the Colombo plan. Currently, the 38th and the 39 th drafts are been trained.

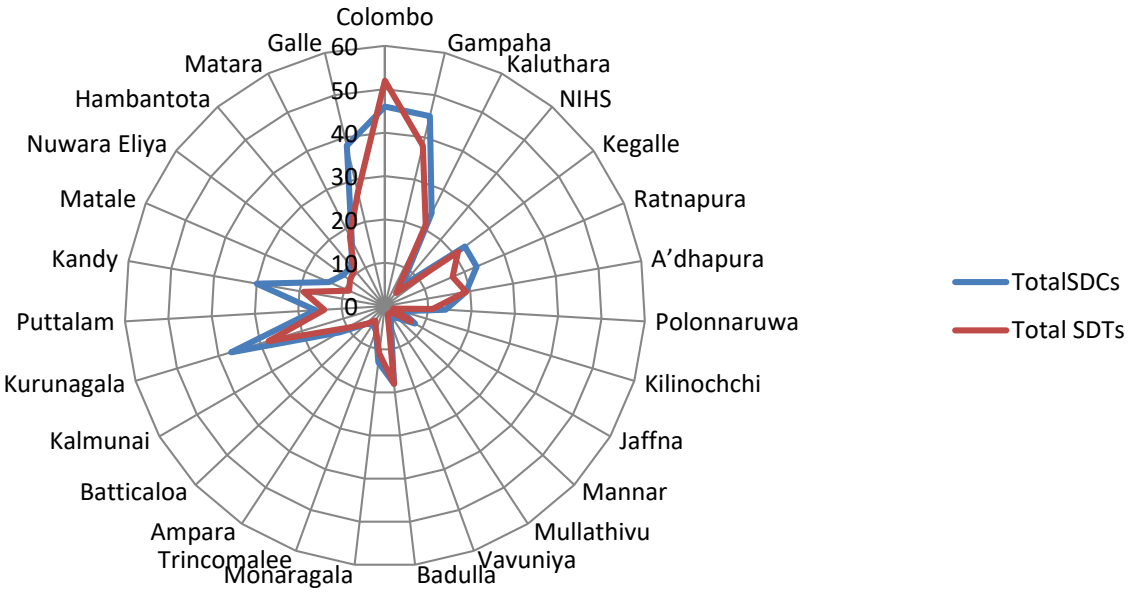
The trainees are paid an allowance of Rs.33,000.00 monthly. Hostel facilities for 30 students are available on a priority basis of distance. The dental materials required for training are supplied by the Institute of Oral Health, Maharagama. The last curriculum revision has been conducted in 2008 and a new revision is expected. The curriculum includes health promotion, managing children for provision of oral health care, conducting research, oral diseases, nutrition of children and the basic anatomy of oral structures. The capacity of the school on average has been for around 30 students per draft but the school lacks a simulation laboratory.

Recruitment by the Ministry of Health for deployment

Even though employment is not promised at recruitment the trained SDTs have been absorbed into the government services so far and granted employment by the Ministry of Health. The recruitment to the Ministry of Health is conducted by the Establishment branch. The training has been stopped in 1997 and then re-commenced in 2008 due to various protests by the Dental Surgeons. Within these 11 years, no recruitment has taken place. Apart from retirement the SDTs recruited to the public services rarely leave without completing their retirement age.

The current distribution of SDTs in Sri Lanka

Figure 1: Distribution of SDTs according to the School Dental Clinics (SDC) in Sri Lanka. *(Source: FHB, Oral health unit)*



As shown above, the distribution of SDTs in each district shows discrepancies with shortages in districts such as Ratnapura, Kandy and Kurunegala and excess in Colombo and Badulla.

Table 3: Distribution of School dental Therapists throughout Sri Lanka
(Source: FHB, Oral health unit)

Province	District	MOHs per district	Supervising SDTs per district	SDCs with SDTs	SDCs without SDTs	Total SDCs	Total functional SDCs	Total SDTs (including contract basis)
Western	Colombo	19	1	46	0	46	46	52
	Gampaha	16	0	35	10	45	45	38
	Kaluthara	12	0	19	5	24	24	21
	NIHS	3	0	4	2	6	6	4
	Kegalle	11	1	18	5	23	23	21

Sabaragamuwa	Ratnapura	19	1	17	6	23	17	17
North Central	A'dhapura	20	1	19	0	19	19	19
	Polonnaruwa	7	0	10	4	14	14	11
Northern	Kilinochchi	4	1	2	2	4	3	2
	Jaffna	14	1	7	1	8	10	7
	Mannar	5	1	2	2	4	3	2
	Mullathivu	6	0	2	1	3	3	2
	Vavuniya	4	0	2	2	4	2	2
Uva	Badulla	16	0	17	1	18	18	18
	Monaragala	11	0	11	2	13	11	11
Eastern	Trincomalee	12	0	6	0	6	6	6
	Ampara	7	0	4	1	5	7	4
	Batticaloa	14	0	6	0	6	6	6
	Kalmunai	13	0	10	2	12	12	10
Nort Western	Kurunagala	29	0	28	9	37	32	28
	Puttalam	13	0	14	2	16	16	14
Central	Kandy	23	1	18	12	30	29	19
	Matale	13	0	9	5	14	14	9
	NuwaraEliya	13	0	10	2	12	12	10
Southern	Hambantota	12	0	7	5	12	9	11
	Matara	17	0	13	4	17	15	18
	Galle	20	0	24	14	38	38	27
	Total	**353**	**8**	**360**	**99**	**459**	**442**	**389**

The total number of clinics available currently is 459. Only 389 SDTs are available including the number on a contract basis. This creates a shortage of 70 SDTs currently but the actual shortage is 97 (table 3).

To reach the ideal number required (1:2000 norm), 614 SDTs are required which is a shortage of 252 (without the contract basis SDTs). According to the current recruitment rate the number of 97 vacancies will be filled in nearly 16 years until which there will be a shortage of SDTs in Sri Lanka. The ideal number of 614 is only a dream to meet according to the current recruitment rate. From 2037 no retirement will take place and the annual balance of 32 will be sustained for 10 years.

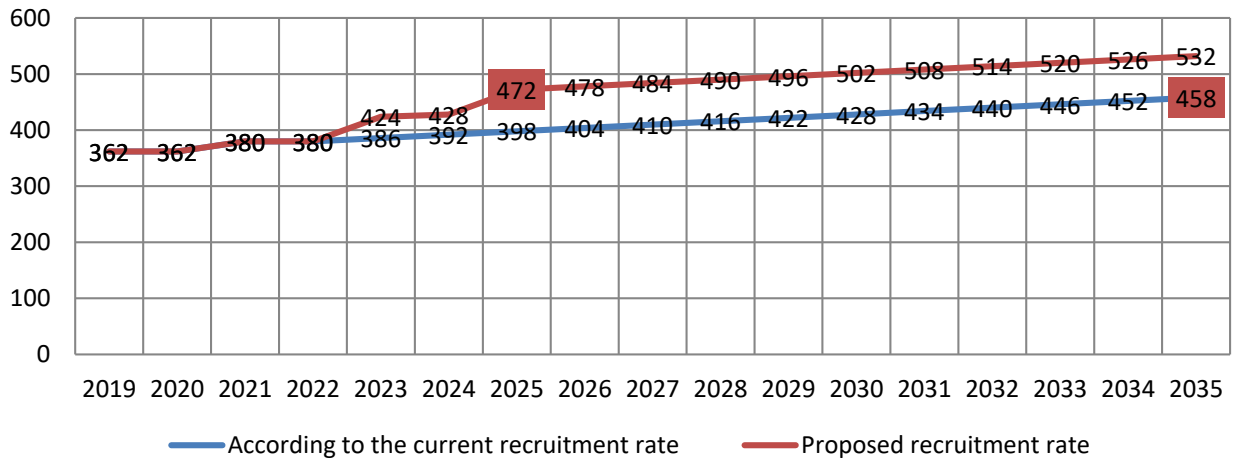
❖ Possible reasons identified for the shortage of SDTs in Sri Lanka

- Delayed recruitment for training as the process of advertisement and recruitment nearly takes 6-8 months.
- Irregular annual recruitment which often takes place biennially.
- Maldistribution of SDTs in districts with excess in some districts.
- Inadequate recruitment for a batch as the total number is not met due to various delays.
- Poor coordination among the 3 units for recruitment further increases the delays.

IV. Recommendations to Reduce the Shortage

The current shortage of SDTs is 70 but the actual shortage is 97, according to the ideal requirement it is 252 (according to the 1:2000 norm). The balance number added to the service annually is around 6.Therefore, if the current rate is considered it will take around 11 years to fill 70 and 16 years to reach 97. Therefore an intervention is necessary to increase the intake and reduce the shortage in order to improve the services for school children.

Figure 3: Number of SDTs available through the years



Increasing the training capacity to 64 biennially while recruiting 32 alternatively without compromising the quality of training, will help to reduce the shortage of 70 by 3 years and 97 by 4 years as shown in the graph above.

It is also necessary to ensure regular annual recruitment for training as well as deployment by the Ministry of Health and any delays need to be compensated by increasing the number of recruitments which should be below 64 according to the capacity of the school. If the number is increased more than this it is necessary to increase training facilities in order to ensure the quality of training of the student SDTs.

Undue delays in recruitment due to recruitment procedure and calling for applicants and recalling for vacancies need to be reduced and the process needs to be made more efficient by strengthening cooperation among the responsible units of the Ministry of Health.

REFERENCES

[1] 1. Dental Therapists: Improving Access to Oral Health Care for Underserved Children. Jay W. Friedman, Kavita R. Mathu-Muju. Am J Public Health. 2014 June; 104(6): 1005–1009. Published online 2014 June. doi: 10.2105/AJPH.2014.301895 PMCID: PMC4062028 PMID: 24825199. Accessed on line on 2/11/2020.

[2] 2. Oral Health Care for Children in Countries Using Dental Therapists in Public, School-Based Programs, Contrasted with That of the United States, Using Dentists in a Private Practice Model Kavita R. Mathu-Muju, Jay W. Friedman, David A. Am J Public Health. 2013 September; 103(9): e7–e13. Published online 2013 September. doi: 10.2105/AJPH.2013.301251 PMCID: PMC3780681 PMID: 23865650 Accessed online on 12/11/2020.

[3] 3. Family Health Bureau, (Oral health unit),Ministry of Health Annual Health Bulletin2019

[4] 4. Dental therapists: a global perspective. David A. Nash, Jay W. Friedman, Thomas B. Kardos, Rosemary L. Kardos, Eli Schwarz, Julie Satur, Darren G. Berg, Jaafar Nasruddin, Elifuraha G. Mumghamba, Elizabeth S. Davenport, Ron Nagel Kentucky.International Dental Journal(2008)58,61-70. Accessed on line 1/12/2020

[5] 5. Evaluation of the school dental services provided by the school dental therapists in the Western Province of Sri Lanka. Fernando, E.A.2005 http://192.248.21.144/handle/1/1741 Accessed on line 2/12/2020

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