

## SCHOOL HEALTH PROGRAMS IN TAMIL NADU

*Vidhya Viswanathan<sup>(1)</sup>, A.Somasundaram<sup>(1)</sup>, V.Shanmugasundaram<sup>(1)</sup>,  
Boopesh Nagarajan<sup>(1)</sup>, P.Vadivelan<sup>(1)</sup>, T.S.Selvavinayagam<sup>(1)</sup>*

(1) - Directorate of Public Health and Preventive Medicine, Chennai.

Abstract

The global net enrolment rate for primary education is around 89% in the year 2020 and that of Lower middle-income countries and India is 87% and 92% respectively. The gross enrolment ratio in primary education for India has increased from 96.8% in 2019 to 99.9% in 2020 and hence schools can be the best platform to render the primary health care services to children with maximum coverage. School based health care services aim to meet the needs of disadvantaged populations, address the health-related obstacles to educational achievement, and address the cultural, financial, and privacy and transportation related barriers to clinical, preventive health care services.

Comprehensive health care programmes addressing the indispensable health needs of children are still missing in many low- and middle-income countries. WHO has published its first-ever guideline on school health services in 2021, providing a menu of 87 specific interventions for improving child health. In this article, we would like to document school health care services provided at different periods of time in Tamil Nadu, a southern state in India. Beginning from the year 1962, different initiatives of school health care services focussing on specific health issue like Rheumatic Heart diseases, dental problems, refractive errors, menstrual hygiene, anemia correction etc. in addition to general medical screening were implemented based on the needs. After 2014, many of the above components were brought under one roof Rashtriya Bal Swasthya Karyakram (RBSK) with expanded resources of exclusive health team with vehicle support functioning on all days a week. The referral and treatment services were strengthened availing the existing state health insurance scheme and integrating with other programmes and voluntary organizations. Like implementation of any other public health intervention, school health services also have a remarkable history, evolving with the changing needs, and has set trajectory to recreate in similar settings. Few areas of concern like covering non-school going and juvenile homes need to be addressed.

**Keywords:** School health services, Tamil Nadu Public Health, RBSK

**INTRODUCTION**

The global net enrolment rate for primary education is around 89% in the year 2020<sup>1</sup> and that of Lower middle-income countries and India is 87% and 92% respectively. The gross enrolment ratio in primary education for India has increased from 96.8% in 2019 to 99.9% in 2020<sup>1,2</sup>. Schools can be the best platform to render the primary health care services to children with maximum coverage and the same is underscored by the recent attainment during the COVID-19 pandemic, of 72% of first dose coverage of COVID-19 vaccination among 12-14 years children in a period of one month and 87% coverage among 15-18 years in a period of 3 months in Tamil Nadu<sup>3</sup>. School health services may be the only institutional way to meet the health-care needs of most school age children and adolescents on a regular basis and at scale<sup>4</sup>. Adolescents will often only contact health services if they are ill or injured, and with delay, when they are severely ill. Furthermore, adolescence is a key period for the onset of many health concerns, such as mental health or visual acuity disorders and is also when different kinds of risk behaviours that have major impacts on future adult mortality and morbidity are either initiated or consolidated, such as the use of alcohol, tobacco and other substances, risky sexual behaviours and the adoption of healthy or unhealthy dietary

and exercise habits.

School based health care services aim to meet the needs of disadvantaged populations, address the health-related obstacles to educational achievement, and address the cultural, financial, and privacy and transportation related barriers to clinical, preventive health care services and have the potential to promote social mobility and improve health equity and are cost effective in improving an array of educational and health-related outcomes<sup>5</sup>. Furthermore, when implemented with reasonable quality, school health services are highly valued by students, parents and communities<sup>6</sup>.

In spite of the tremendous opportunities in the school platform for health care, comprehensive health care programs addressing the indispensable health needs of children are still missing in many low- and middle-income countries. School health care services in many countries are limited to those that can be delivered by teachers,



Please Scan this QR Code to

View this Article Online

Article ID: 2022:02:01:05

Corresponding Author : Vidhya Viswanathan

e-mail: vidhyaviswanathan5210@gmail.com

counselling or periodic deworming and/or to rare visits by clinical staff from a local health facility, for example to administer school immunization<sup>7</sup>. In 1995, WHO launched Global school health initiative, which has a goal to improve child, adolescent and community health through the concept of Health Promotion Schools (HPS) but this have been found to be effective in improving several aspects of student health but establishing them with high coverage, quality and sustainability has proved challenging in many countries. As a result of over two years' work by WHO and UNESCO staff, academics, policy makers, and program implementers, WHO has published its first-ever guideline on school health services in 2021, providing a menu of 87 specific interventions for improving child health<sup>8</sup>.

Developed countries have started implementing school health care services way back in early 19th century and are steadily expanding whereas in India, it was started in 1909<sup>9</sup>. Health is a state subject in India and health care initiatives come from both central and state government. Tamil Nadu, a southern state in India known for its pioneering public health activities in various fields had brought in many strategies in school health services. In this article, we would like to document the origin, evolution of School Health related programs in Tamil Nadu and to feature the key interventions undertaken in school health services, which will be helpful to plan future innovations.

#### **School Health Services in India:**

The beginning of school health services in India dates back to 1909, when for the first-time medical examination of school children was carried out in Baroda city. The Bhoré committee in 1946 reported that school health services were practically non-existent in India, and where they existed, they were in an under-developed state. In 1953, the secondary education committee emphasized the need for medical examination of pupils and school feeding programs. In 1960, the Government of India constituted a School Health Committee to assess the standards of health and nutrition of school children and suggest ways and means to improve them. The committee submitted its report in 1961, which contains many useful recommendations – setting up advisory boards with representatives from education, health, housing, agriculture, and social welfare, should have Bureau of school Health services to plan and initiate programs with coordination from local bodies and voluntary organizations, focussing on general hygiene and sanitation, production of birth and vaccination certificates made compulsory, school feeding programs, nutrition supplements, and with mention on dental, mental health and deaf children<sup>9</sup>. During the

Five-year Plans, many State Governments have provided for school health, and school feeding programs. In spite of these efforts to improve school health, it must be stated that in India, as in other developing countries, the school health services provided are hardly more than a token service because of shortage of resources and insufficient facilities.

#### **School Health Services in Tamil Nadu :**

##### **Mid-day meal program :**

The earliest school health service in Tamil Nadu instituted was the mid-day meal program in schools and the history dates back to 1920 in five schools of Madras Corporation<sup>10</sup>. In 1956, the scheme was executed in all primary schools across the state and subsequently it was expanded to 2-5 years children in Anganwadis and to 10-15 years. Tamil Nadu was the first state to initiate the mid-day meal program to reach the benefits of improved school attendance, reduced dropouts and beneficial impact on children's nutrition.

##### **School Health Program :**

The Directorate of Public Health & Preventive Medicine under Ministry of Health and Family Welfare initiated an exclusive program of delivering health care services to school children in 1962. Comprehensive school health care services including general health check-up, clinical screening for nutritional deficiencies, systemic illness, refractive errors, and minor ailments on all Thursdays among children studying in 1st to 12th standard in all government and government aided schools. The school health team comprised of Medical Officer, Village Health Nurse, Health Inspector and Sector Health Nurse from the local Primary Health Centres (PHCs). Minor ailments were treated at the PHC level whereas major illnesses were referred to higher centres. Children screened and found to have refractive errors were also referred to higher centres for prescription of spectacles. Two teachers from each school were identified as nodal teachers and were trained in identifying common illness among children, providing assistance for the school health team and also to follow the referred children. All Thursdays are considered as "School Health days" and Saturdays as "referral days" for ensuring follow-up of the referred children.

##### **Rheumatic Heart Diseases program :**

Consequent to the increase in number of cases of Rheumatic Heart Disease in the year 1980-1990, this program was implemented in 1996 involving teachers orienting them on the earlier symptoms of Rheumatic fever (RF) and Rheumatic heart disease (RHD). Any children identified with acute rheumatic fever were referred to nearby PHC for confirmation and if confirmed were given

free treatment with injection Benzyl penicillin or tablets and followed up. Meanwhile active case search in the residing areas of those children were done to identify cases at earlier stage to prevent Rheumatic Heart Diseases (RHD).

#### **Congenital defects program:**

During the year 2004-2005, screening of children up to 15 years of age, for any congenital defects like cleft lip, cleft palate, was instituted and children identified with defects were referred to government medical college hospitals for corrective surgeries. The program was expanded with inclusion of more visible congenital deformities and children identified with deformities were referred to medical college hospitals for cost free management.

#### **School Children Heart diseases program (Palli sirar Irudhya Padhukaappu Thittam):**

In the year 2008, from the routine screening under the school health program 9,986 children were identified with heart diseases. It was planned to form district level committees comprising of Dean from Medical college Hospital, Joint Director from government hospitals, Deputy Director of Public Health and cardio thoracic surgeons and professors in the respective districts and 2,398 children were confirmed for surgical procedures. Based on this, a Memorandum of Understanding (MoU) was formed with 24 private hospitals for treatment of children with heart diseases free of cost. Three types of packages were designed to pay to the private hospitals under the MoU, such as Type-A, B and C with allotment of RS.30,000, Rs.50,000 and Rs.1,00,000.

#### **Modified School Health Program (MSHP) :**

During the period 2009-2010, existing School Health Program was modified and implemented in districts in phased manner and covered all districts in 2011-2012. The MSHP packages include comprehensive health education, health promotion, first aid management, health screening services by the PHC team, immunization, deworming, eye care, dental care, adolescent anaemia management and minor ailments treatment and referral with follow-up. Around 200-250 children were screened by each school health team from the local PHC.

#### **Free spectacles distribution for Refractive errors (Kannoli Kaapom Thittam):**

Since the year 2009, in addition to screening of students studying in 6th to 12th standard in government and government aided schools, spectacles were prescribed by Para Medical Ophthalmic Assistants (PMOA) and appropriate spectacles were distributed free of cost to the students in their respective schools.

#### **Comprehensive School Dental Program:**

Dental care centres were established in rural areas to create awareness on prevention and treatment of dental problems. In 2011-12, it was initiated in 148 PHCs and 22 sub district hospitals, functioning 3 days a week and was then upscaled to all PHCs and hospitals. School children identified with dental caries, gum problems etc. during the screening by the local PHC team were referred to dental centres for treatment.

#### **Menstrual Hygiene program in schools:**

With the objective of increasing awareness among adolescent girls on menstrual hygiene, building self-esteem and empowering girls for greater socialization, Menstrual Hygiene Program was launched in the year 2012. Under this scheme, 18 packs of sanitary napkins with six pads per pack in a year, were provided to each adolescent girl (10-19 years) in rural areas both school going and non-school going girls at the rate of three packs for two months in a year. A teacher is designated as responsible for distributing the sanitary napkins to school students. This increased access to and usage of high-quality sanitary napkins among rural adolescent girls.

#### **Weekly Iron Folic Acid Supplementation (WIFS):**

To tackle the burden of anemia and its complications during adolescence, pregnancy and delivery, weekly supplementation of iron and folic acid tablets was provided to all girls, both school going and non-school going of age 10-19 years since the year 2011-12. In addition, albendazole tablets were given biannually for deworming. Currently, boys of same age group were also included under the program. Every Thursday afternoon, under the supervision of the class teacher, boys and girls should consume the tablets regularly.

#### **Adolescent Immunization:**

School health team focus on the school immunization of DPT 2nd booster at 5 years of age and adolescent immunization of Tetanus Toxoid (TT) vaccine for students of 10 and 16 years of age during their Thursday visits. Currently, Td (Tetanus and adult dose of diphtheria antigen) are given subsequent to the Government of India recommendations on switch to Td from TT in 2019.

#### **Iodine Deficiency Disorders control program:**

Tasks and activities under IDD control program involving schools were conducted periodically – urine sample collection for urinary iodine excretion estimation, measuring prevalence of goitre, in addition to awareness generation.

#### **Tobacco control and NCD awareness:**

Exclusive teams at block level are formed and tobacco control activities are carried out in and around schools under the COTPA. Schools abiding to tobacco control and awareness activities are encouraged by providing “tobacco

free institution” certificates. Similarly, awareness on risk factors for non-communicable diseases like sedentary life style, unhealthy food habits, smoking, alcohol were imparted during the visits of the local PHC team. Students were encouraged to participate in activities impacting awareness on non-communicable diseases.

#### Other health care services:

In addition to the above-mentioned basket of clinical and health care services, Public Health force in Tamil Nadu never overlooked the environment and sanitation components. The local PHC team with Medical Officer, Health Inspector will visit all schools for the environment assessment including safe drinking water, infrastructure, sanitation, toilet facilities and general hygiene for the issuance of sanitary certification. In addition to the annual environmental assessment, frequent visits are made to check spread of communicable diseases covering source reduction and other vector control activities. During the post monsoon period, these activities are intensified to prevent vector borne diseases.

28,92,374 children were treated for one or other health problems and 44,494 were referred for higher medical institutions for further management during the year 2013-14. In 2014, with the launch of nation-wide school health program by Government of India, many schemes and components carried out under school health services were merged under one roof called “Rashtriya Bal Swasthya Karyakram”.

#### Rashtriya Bal Swasthya Karyakram (RBSK) :

Government of India had initiated a new program called Rashtriya Bal Swasthya Karyakram (RBSK) in the year 2014 under National Health Mission. This program was introduced mainly to address the long-lasting adverse health outcomes that can occur due to conditions like congenital defects, deficiencies, diseases specific to childhood and developmental delays including disabilities, through two components - Child Health Screening and Early Intervention Services. The services under RBSK aims at screening for 30 selected health conditions, early detection and free management for children from birth to 18 years of age.

Tamil Nadu started implementing the RBSK program since 2014 in all 32 districts across the State. Initially executed in all 385 rural blocks by the Directorate of Public Health and Preventive Medicine covering all 51,800 of Anganwadi centre and 45,895 of Government and Government aided schools.

#### Child Health Screening:

The child health screening component happens with different mechanisms to reach the target age groups. **a) For new born:** Facility based screening at public health facilities, by existing Paediatricians at Medical College Hospitals (MCHs), and by

Medical Officers and Staff Nurses at secondary care hospitals and primary health centres, and Community based screening at home after 48 hours to 6 weeks as a part of Home Based New Born Care (HBNC). In Tamil Nadu, delivery point screening is operational at all 36 Medical college Hospitals and 299 secondary and 2286 Primary Health Centres (PHCs)

**b) For children 6 weeks to 6 years:** Pre-school screening at Anganwadi centres at least twice a year by the dedicated Mobile Health Teams (MHT) **c) For Children 6 years to 18 years:** School screening at all Government and Government aided schools at least once a year by the dedicated Mobile Health Teams (MHT). Initially the pre-school and school screening were started at all rural blocks across the State by the dedicated RBSK Mobile Health Team @ two teams per rural block. Later expanded to urban blocks.

#### Mobile Health Teams (MHTs):

Each team is comprising of One Medical doctor, One Staff Nurse/ Sector Health Nurse, one Pharmacist with proficiency in computer for data management and one driver with an exclusively allocated vehicle. Totally, 770 MHTs are functioning in 385 rural blocks in all 32 districts. The teams prepare an annual Advanced Tour Program (ATP) at the block level covering all the Anganwadi centres and Government and Government aided schools in such a way that each Anganwadi centres are visited twice a year and schools once a year. The ATP once prepared is shared with the officials and nodal persons in WCD (ICDS) and education department for better preparation, coordination and quality delivery of services. All Children are screened from head to toe to identify the selected conditions and the children of adolescent age group, in addition are screened for adolescent conditions like growing up concerns, substance abuse, depression, menstrual disturbances like delay in cycles and pain during menstruation, irregular periods, symptoms related to Urinary Tract Infections (UTI) and genital tract infections. The screening details and anthropometric measurement of each child are recorded in screening tool cum referral card and entered in registers for recording and follow-up.

In addition to screening services, other services rendered are immunization appropriate to the age in Anganwadi centres and Schools, Health education on nutrition, hygiene, and sanitation, referral of children identified with any of the selected 30 conditions to early intervention centres, counselling to the care-givers and follow-up of those referred.

#### Early Intervention Services:

Early Intervention Services are rendered through District Early Intervention Centres (DEIC) established at District

Hospitals (DHs) or Medical College Hospitals (MCHs) in each of the 32 districts to provide diagnostic and management and follow-up support to children detected with health conditions during child health screening. The DEIC team comprises of specialists and paramedical staff – Paediatrician, Medical Officer, Dental surgeon, Physiotherapist, Audiologist cum speech therapist, Psychologist, early interventionist cum special educator/ Social worker, Lab technician, Dental Technician, Manager and Data Entry Operator. The major roles of DEIC are: confirmation of diagnosis & treatment of children referred following screening by MHT, visit all newborns delivered at District Hospitals and Medical College Hospitals & screening for hearing, vision, congenital heart disease before discharge, ensure every child born sick/ preterm/ low birth weight/ birth defects followed up at the DEIC, all the referrals for developmental delays are followed and records maintained, the LT of DEIC would screen the children for inborn errors of metabolism and other disorders, and to ensure linkage with tertiary care facilities.

In addition to the above core activities, supplementary services at DEIC include issuing disability certificates with other members if the disability board, liaisoning with other departments like disability division of Ministry of Social Justice and Empowerment (MoSJE) in providing assistive technology devices and services, special education services, aids and appliances, rehabilitation, family support services, and Ministry of Human Resource Development (MoHRD), department of School Education & Literacy under “Education of Children with Special Needs in “ Sarva Shiksha Abhiyan” in providing inclusive education and support, providing Aids and appliances and to provide home based educational services to children with special needs on need basis.

Since April 2015, of the children screened, 50,434 were identified with seven major diseases - Congenital Heart Diseases, Rheumatic Heart Diseases, Cleft lip/palate, Club foot, Congenital deafness, Congenital cataract and Neural tube defects. Of which 27,722 were treated medically and 21,954 were treated surgically.

#### Specific Interventions in Tamil Nadu RBSK program:

##### 1) School Health card:

It is a physical record to document the initial health status of the child like height, weight, BMI, blood group and typing and to enter information on diseases, deficiencies, allergic conditions, visual acuity, medical conditions, etc. It is colour coded – blue for boys and pink for girls and is kept in the schools to track the medical status every year during the visits by the school health team. One record is to be maintained for one child from 1st to 12th standard and this

can remain as a valuable health record.

##### 2) Availing the existing State Health Insurance scheme:

Some health conditions covered under RBSK require cost intensive specialized treatments which are not affordable by majority of people. Government of Tamil Nadu launched its state health insurance scheme - Chief Minister’s Comprehensive Health Insurance Scheme (CMCHIS) providing free medical and surgical treatment services in government and private hospitals to the members of any family whose annual income is less than Rs.72,000/. Under CMCHIS, procedures like cochlear implant, shunt procedures for hydrocephalus, cardiac and cardio thoracic surgeries for congenital defects and diseases identified under RBSK were made accessible and affordable<sup>15</sup>. The corpus funding model of CMCHIS helps to overcome financial burden on the public hospitals’ side also and facilitates to provide high end surgical procedures with high quality treatment care to economically marginalized children identified Under RBSK. Considering the growing burden of autism and needs, a separate package for autism was also introduced in 2017 under the scheme.

##### 3) Integration with Voluntary organizations:

Participation of voluntary organizations involved in specific areas like CURE club foot organization for club foot, Smile Train for cleft lip and cleft palate and MDCRC for Duchenne Muscular Dystrophy were utilized to refer and treat children identified with defects at free of cost.

##### 4) Integration with Leprosy and Tuberculosis program:

Government of India recommended to collaborate the National Tuberculosis Elimination program (NTEP) and National Leprosy Eradication program (NLEP) with RBSK and RKSK and to improve screening for children under 18 years of age in 2019. In Tamil Nadu, the RBSK teams at block level were coordinating with district TB team and leprosy team in terms of screening, referral and follow-up since 2017. So far, 1002 children were diagnosed with TB through RBSK screening and 993 were treated and 10 cases of leprosy identified in the year 2021-22.

##### Rashtriya Kishor Swasthya Karyakram (RKSK):

Under this GoI program launched focussing on adolescents’ health, teenage boys and girls should form groups, each with 10-12 members, periodically meet and discuss on adolescent health issues with a student nominated as a peer educator on the priority areas – nutrition, reproductive health, substance use, NCDs, mental health and violence.

## DISCUSSION

School Health Program caters to around 70% of children aged 0-18 years and has been able to provide preventive,

promotive and curative services to this population. Like any public health intervention undertaken by the state, school health services also have a remarkable history, evolved over a period, inculcating the changing needs of this population, and has set trajectory to recreate in similar settings. The program is a perfect example for intersectoral coordination between health and education department. The data management system of education department, 'Education Management Information System' is being integrated with the program.

However, the program can expand its services to include children and adolescents who do not come under the purview of formal school education like those studying in non-formal environment like Madarassa etc. Another area for strengthening is to expand the program to cover the most vulnerable group like non-school going children, and those in juvenile homes. While this group is provided with patchy services like anaemia prevention, menstrual hygiene, they do not have access to services like routine screening and referral, which may be considered for expansion of services. Covid-19 pandemic had hit the school health program badly, as the schools were shut, and students were not accessible through the program. This has stressed on the necessity of building a resilient system to ensure continuity of service provision during disaster times.

## REFERENCES

1. School enrollment, primary (% net) | Data [Internet]. [cited 2022 Apr 23]. Available from: <https://data.worldbank.org/indicator/SE.PRM.NENR>
2. School enrollment, primary (% gross) - India | Data [Internet]. [cited 2022 Apr 23]. Available from: <https://data.worldbank.org/indicator/SE.PRM.ENRR?locations=IN>
3. COVID-19 Vaccination report Immunisation Division, Directorate of Public Health & Preventive Medicine. 2022 04;
4. SCHOOL HEALTH :A NEED OF THE HOUR - PMC [Internet]. [cited 2022 Apr 23]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5531647/>
5. School-Based Health Centers to Advance Health Equity - PMC [Internet]. [cited 2022 Apr 23]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5759331/>
6. Obeagu G, Obeagu E. School Health Programme: An Indispensable Programme in Child Health. 2019 Apr 30;1:1-10.
7. World Health Organization Recommends Comprehensive School Health Services and Provides a Menu of Interventions - Journal of Adolescent Health [Internet]. [cited 2022 Apr 23]. Available from: [https://www.jahonline.org/article/S1054-139X\(21\)00232-9/fulltext](https://www.jahonline.org/article/S1054-139X(21)00232-9/fulltext)
8. WHO guideline on school health services [Internet]. [cited 2022 Apr 23]. Available from: <https://www.who.int/publications-detail-redirect/97892400293929>
9. Parks Textbook of Preventive and Social Medicine Pdf Download - Medico TIME [Internet]. [cited 2022 Apr 23]. Available from: <https://www.medicotime.com/parks-textbook-of-preventive-and-social-medicine-pdf-download/>
10. (Beta version)National Institute of Health & Family Welfare [Internet]. [cited 2022 Apr 23]. Available from: [http://www.nihfw.org/NationalHealthProgramme/MID\\_DAYMEAL.html](http://www.nihfw.org/NationalHealthProgramme/MID_DAYMEAL.html)
11. Government of Tamil Nadu (2005-2006 to 2020-2021). Policy Note of Health & Family Welfare Department.
12. Operational Guidelines: National Health Mission [Internet]. [cited 2022 Apr 23]. Available from: <https://nhm.gov.in/index1.php?lang=1&level=5&sublinkid=1193&id=3721>.
13. Home | National Health Mission Tamil Nadu, Department of Health & Family Welfare Govt. of Tamil Nadu, India [Internet]. [cited 2022 Apr 23]. Available from: <https://www.nhm.tn.gov.in/en>
14. TN Health - Informative Source For Your Health [Internet]. TN Health. [cited 2022 Apr 23]. Available from: <https://www.tnhealth.org/>
15. Chief Minister's Comprehensive Health Insurance Scheme [Internet]. [cited 2022 Apr 23]. Available from: <https://www.cmchistn.com/>