

Paediatrics in Singapore: The Early Days

SH Quak,¹ *MBBS, M Med (Paeds), MD*

Abstract

Paediatric services in Singapore started at the end of the 19th century. Because of inadequate housing, poor sanitation and inadequate health services, malnutrition and infections were the main problems. Infant mortality was in excess of 300/1000. There were many prominent doctors who worked in extremely demanding environments in order to better the health of children at that time. Over the years, there has been a steady improvement of healthcare in Singapore and this has been mainly due to the foresight and hard work of the pioneers. With excellent primary healthcare and specialised paediatric centres, paediatric services in Singapore are among the best in the world.

Ann Acad Med Singapore 2005;34:126C-129C

Key words: Child health, Infant mortality, Malnutrition, Worm infestation

Introduction

Singapore used to be a colony of the British Empire. The main reason for having a colonial government trade was the exploitation of raw materials and cheap labour. The medical services provided by the colonial government were mainly for the British in the colony while those provided for the indigenous people were rudimentary. There were no comprehensive health services as we have today. Before the Second World War, few Asian doctors were appointed to any senior position in government services. It was after the Japanese Occupation that local doctors were gradually appointed to senior positions. However, European doctors still enjoyed special “expatriate allowances”.

Consequent to the rapid influx of immigrants from China and India, overcrowding and inadequate sanitation became important social issues at the end of the 19th century. There were just not enough houses for the population. The tenements (shophouses) were grossly overcrowded with families living in dark cubicles and with inadequate sanitation, respiratory and diarrhoeal diseases and tuberculosis.¹ This was aggravated by malnutrition, poor education and ignorance. It is not surprising that newborn infants were most vulnerable in such environment. The infant mortality rate was in excess of 300/1000 live births at the turn of the 19th century.

The major paediatric problems at that time were

malnutrition and infectious diseases. The immigrants to Singapore were mainly from the villages who had little knowledge of sanitation and who disliked milk for themselves or for their children. The health staff were mainly occupied with the prevention of smallpox, plague and cholera and with the treatment of diphtheria. According to Dr Keys Smith,¹ one of the founder members of the Singapore Paediatric Society, cases of leprosy were seen when he arrived in Singapore in 1948. There were lepers begging outside the markets. Poliomyelitis, malaria, parasitic infestations and respiratory infections were common. Children with whooping cough or measles rarely came to hospital unless pneumonia supervened. Amoebiasis, congenital syphilis, infectious hepatitis and meningococcal infections were also commonly seen. Infestations by hookworms and round worms were common. Round worms produced the most bizarre range of symptoms as the worms can wriggle into every tube and orifice. It was not uncommon for children to expel hundreds of worms when anti-worm treatment was given. The habit of giving *kanji* (rice water) instead of milk to the babies must have produced many deficiency diseases such as infantile beriberi and scurvy. Even the hospital staff were poorly trained. There was not adequate supervision, with dilution of milk from time to time, and even doses of chloral hydrate were added to the night feeds by the *amah*!²

¹ Department of Paediatrics,

National University of Singapore, Singapore

Address for Correspondence: Associate Professor Quak Seng Hock, Department of Paediatrics, National University of Singapore, 5 Lower Kent Ridge Road, Singapore 119074.

The Beginning of Paediatric Services

Paediatrics emerged as a special branch of medicine in Singapore in 1921.³ At that time the children admitted to the General Hospital were being cared for in the adult ward by a pioneer lady medical officer, Dr S O'Flynn, who had previously worked in peninsular Malaya among women and children. In the following year, Dr RB Hawes came to Singapore to work among children and in the venereal clinics. Under the leadership of these 2 pioneers and the Public Health Matron, Miss Ida Simmons, child welfare services were developed, initially in the city and later in the rural areas. The success of Maternal and Child Welfare services was reflected by the declining infant mortality rate in the rural areas from 263/1000 live births in 1927 to 86.36/1000 in 1938.

Dr O'Flynn had had considerable experience as a medical officer in several Malayan States since 1913. When she came to the Singapore General Hospital (SGH) in 1921, she was posted to the surgical unit, under the surgeon, Mr CJ Smith. Dr C Elaine Field (Fig. 1) wrote in 1962: *"At that time, Malay mothers would breast feed their infants for three to four years, yet, in the first few weeks of life, they would give the infants rice flour mixed with water and banana, a custom which still exists in the more rural areas. The newly born babe was wrapped in swaddling clothes with arms bound close to the sides, the cord was cut with a bamboo knife after having been tied several times, and the foetal ends smeared with charcoal from the bottom of a saucepan—no wonder tetanus neonatorum was commonly seen. So, trussed up and protected by an amulet round the neck and smears of betel juice here and there on the body, the infant was launched on a perilous journey through life, where so many fell by the wayside."*² It was in this type of environment that paediatric services started. In 1932, when a new block was completed at the General Hospital, a ward was set aside for children.

Dr Hawes was responsible for the teaching of medical students in Paediatrics when he became Professor of Medicine. He was a man with foresight; for as early as 1932, he pressed for a professor of Paediatrics, with a department in close contact with the health authority. It took 30 years for the idea to be accepted when Professor Wong Hock Boon was appointed the founding professor of Paediatrics in 1962. Dr Elaine Field wrote in 1962: *"... I cannot leave this subject of training without paying tribute to Dr Wong Hock Boon who has, I feel, been largely responsible for encouraging and coaching our trainees. He is a fount of knowledge from whom I personally have learned a great deal and also a very hard worker and tower of strength in the Unit."*

It was between 1929 and 1932 that the first paediatrician was "in the making". Dr Gopal Haridas, the "Father of

Paediatrics in Singapore", was a tutor of medicine at the Tan Tock Seng Hospital (TTSH). Under the influence of Professor Hawes, he developed a special interest in children's health and on his return from the United Kingdom (UK) in 1933 with an MRCP, he took charge of wards 12 and 13 and was appointed part-time lecturer in Paediatrics. Dr Haridas was succeeded by Dr Cicely Williams in 1936 on his promotion to chief medical officer at the TTSH. However, he held the position of paediatrician and part-time lecturer until his retirement in 1954. Even when he had retired, he continued to care for children in his private practice. It was in memory of this great man that doctors in Singapore set up the Haridas Memorial Lecture Fund. The first lecture was delivered by Professor Wong Hock Boon in 1967. Currently, this lectureship is among the most prestigious medical orations in Singapore.

Dr Cicely Williams was another pioneer paediatrician in Singapore. She was posted to the SGH as a lecturer in paediatrics. She was responsible for a closer liaison with the developing Infant Welfare Clinics, particularly in the rural areas. She arranged for exchange of visits of the medical personnel and the follow-up of patients from hospital to welfare clinics. It was a difficult task to establish outpatient clinics where the children could be followed through. It was not until 1941, just before the Japanese Occupation, that this was attained. At that time, the mortality for infants up to 18 months of age admitted to the hospital was 50%, a number not imaginable nowadays. As pointed out by Dr Williams, many parents at that time only brought their children to hospital when they were dying. At that



Fig. 1. Dr C Elaine Field (courtesy of the Academy of Medicine, Singapore).

time, the TTSH and the Kandang Kerbau Hospital (KKH) functioned as general hospitals for civilian patients. There was no children's ward and only 12 beds for children were reserved in the KKH. On the other hand, the St Andrew's Mission Hospital continued to function as a maternity and women's and children's hospital even beyond the Japanese surrender. After the war, wards 12 and 13 for children at the SGH were reinstated. Dr Haridas resumed his headship of the children's ward. He retired in 1954 and Dr Quah Quee Guan acted as head of the unit until Dr C Elaine Field took charge in 1955. Dr Constance Elaine Field was a well-known paediatrician in this part of the world. She had been in Peninsular Malaya before coming to Singapore. She left Singapore in May 1962 for Hong Kong, where she became the Founder Professor of Paediatrics within the department of medicine at the Hong Kong University.⁴ She retired in 1971. She was the second Master of Academy of Medicine, Singapore in the years 1959 and 1960. Her portrait is still kept at the Academy of Medicine, Singapore's office. She passed away in 2002.

Mistri Wing

Shortly after the arrival of Dr Elaine Field in Singapore, a new paediatric wing was opened in the SGH. This was made possible by the generous donation of Mr NR Mistri, a patient of Professor GA Ransome in the 1950s. He generously donated \$1 million to Professor Ransome for medical advancement. Professor Ransome gave the bulk of the \$1 million for the building of Mistri Wing.⁵ This was the Mistri Wing of the SGH (Fig. 2). It was a 4-storey building and had 8 wards with 274 beds/cots.

Professor Wong Hock Boon, the founding professor of Paediatrics, was in charge of the University Department of Paediatrics, more popularly known as "Paediatric West" (wards 26, 28, 30 and 32). "Paediatric East" was the government unit and it consisted of wards 27, 28, 29 and 31. Wards 25 and 26 were on the ground floor and served as admitting wards for the respective units on alternate days. There was a separate medical record office located on the ground floor between wards 25 and 26. Figure 3 shows a picture of the paediatric ward in those days.

Professor Wong headed Paediatric West at the SGH until the department moved to the National University Hospital in 1985, where he continued to be head until his retirement in 1988.

Paediatric East was headed by Dr Tan Kwang Hoh from 1964 to 1969. He was succeeded by Dr Chan Sing Kit. In 1977, Dr Tan Cheng Lim took over as head. Paediatric East subsequently moved to the new Kandang Kerbau Women's and Children's Hospital in 1997, leaving only neonatal services at the SGH. The Neonatal Unit was headed by Dr Ho Lai Yun.



Fig. 2. Mistri wing (courtesy of the *Journal of Singapore Paediatric Society*).



Fig. 3. A typical paediatric ward (courtesy of the *Journal of Singapore Paediatric Society*).

The most important educational activity at Mistri Wing was probably the weekly clinical conference conducted by Professor Wong Hock Boon. Each Saturday morning or Wednesday afternoon (depending on which part of the year it was) he would conduct teaching on four clinical cases. The paediatric trainees would take turns to present the clinical history and he would review the literature and write his personal comments. He wrote four reviews each week and over the years, 51 volumes of Paediatric West Conference Notes had been published. His conference notes were the main source of information for candidates taking higher paediatric examinations. In fact, the conference notes were subscribed by doctors in many Southeast Asian countries. The medical students regularly selected the relevant conference notes and printed them for the whole class as the main resource material in paediatrics.

Meanwhile, 2 other paediatric units were set up in the TTSH and the Alexandra Hospital (AH). The paediatrician heading the unit at the TTSH was Dr Cheng Heng Kock. In the AH, the department received its first patient in 1971 and Dr Teo Hoon Cheow was the department head. He was succeeded by Dr Tan Cheng Lim from 1975 to 1977. Dr

Tan Keng Wee was the head until the neonatal unit was moved to the new KKH. Dr Francis Chia was the next head of general paediatrics.

In the Toa Payoh Hospital (known as the Thomson Road General Hospital earlier), only neonatal services were available from 1971. Dr Ho Nai Kiong, the first full-time staff of the service, headed the department from 1977 to 1989. Before that, part-time paediatric services were available and were provided by paediatricians from the SGH. Dr Lim Sok Bee was the second department head from 1989 to 1990.

Paediatric Nursing

The other main problem at that time was staffing. The European Sisters of the children's ward did not necessarily have paediatric experience. Student nurses and medical students were posted to the children's wards for two months only. There were just too many sick patients for the facilities available. There was no accommodation for the parents, no follow-up clinic or outpatient clinic. Contact with the parents was limited and continuing supervision of the patients was next to impossible. There were many devoted nursing staff and *amahs* who carried out excellent work in the children's ward, and gave admirable and devoted service in spite of the understaffing. Much of the parent education was done by these devoted workers.

In 1949, a Nurse Training School specialising in children healthcare was initiated at the St Andrew Mission Hospital and this was the first such school in Malaya and Singapore. Later in 1951, the course was affiliated to the General Hospital Nurses Training School. Naturally, the graduates subsequently formed the core of paediatric nurses.

Paediatric Services in Private Sector

Dr William Heng is one of the pioneer private practitioners. After returning from the UK, he worked as a house officer in the children's wards at the General Hospital in 1939. He was responsible for developing and running the first follow-up liaison clinic for children in 1941 and this was the beginning of the children's outpatient clinics in Singapore. This clinic initially received patients referred from the Infant Welfare Clinics in other parts of the island. The clinic grew rapidly, seeing 50 to 60 patients daily, and yet the only assistants available were 1 nurse and 2 *amahs*. During the Japanese occupation, the clinic was closed and Dr Heng continued his work in private practice. He was elected president of the Singapore Paediatric Society in 1959. Another prominent private practitioner who contributed greatly to paediatrics was Dr Foo Chee Guan, who was also the president of the Singapore Paediatric Society.

It was the "private sector" that took the lead in establishing a children's hospital with the establishment of the St Andrew's Anglican Medical Mission. The founder of the St Andrew's Mission Hospital, Dr (Mrs) CE Ferguson-Davie, was the wife of the Bishop of Singapore. Although this hospital only became a children's hospital after the Japanese Occupation in 1948, its doors had been open to both women and children since 1913 as a dispensary at Bencoolen Street. In 1914, a second dispensary opened at Cross Street, where the first inpatient care was established. In 1919, a building in River Valley Road was leased to house handicapped children. This was the forerunner of the St Nicolas Home for the Blind (in Penang) and the St Andrew's Orthopaedic Hospital at Siglap, which opened in 1939. The St Andrew's Mission Hospital at Tanjong Pagar Road was restarted in 1948 as a children's hospital. Dr G Keys Smith was appointed Medical Officer in charge. Dr Keys Smith, who attended the 50th anniversary of the Singapore Paediatric society in 2003, had vivid memories of Singapore at that period of time.¹ He contributed a great deal to the development of paediatrics in Singapore and during his tenure of office, a close liaison developed with the Paediatric Department of the General Hospital.

Specialist Training

Prior to 1970, doctors who wished to specialise in paediatrics had to go to the UK for further training and membership examination. In 1970, the National University of Singapore established the School of Postgraduate Medical Studies to train and certify specialists. The first group of trainees received the Master of Medicine (Paediatrics) in 1970. Eleven candidates sat for the examination and 5 were successful. They were Dr Cheng Heng Kock, Dr Foong Yew Chun, Dr Lee Seow Lang, Dr Ong Eng San and Dr Tan Keng Wee. These locally trained specialists form the core group of modern paediatricians in Singapore. They continue to improve the care of children in Singapore and many of them further subspecialise. Over the years, the number of locally trained paediatricians grew to 234.

REFERENCES

1. Smith GK. The Singapore Paediatric Society and Paediatrics in Singapore in 1950s: A personal view. *Singapore Paediatr J* 2002;44:81-9.
2. Field CE. The development of Paediatrics in Singapore. *J Singapore Paediatr Soc* 1962;3:1-7.
3. Wong HB. History of paediatrics in Singapore. *Singapore Paediatr J* 1997;39:149-61.
4. YearBook 2001-2003, Department of Paediatrics & Adolescent Medicine, The University of Hong Kong. Hong Kong: Department of Paediatrics and Adolescent Medicine, University of Hong Kong.
5. Cheah JS. Emeritus Professor Sir Dato Gordon Arthur Ransome – The man I knew. *Ann Acad Med Singapore* 1999;8:11-2.