CHALLENGES

Child health in Malaysia

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Malaya achieved its independence in 1957; in 1963 it combined with Sabah, Sarawak, and Singapore (which seceded two years later) to form Malaysia. Today, Malaysia is a country in transition and thus has health problems of both undeveloped and developed countries. The main provider of health care in the country is the Ministry of Health through its extensive network of health centres, rural clinics, urban polyclinics, maternal and child health clinics, and district and general hospitals. Private hospitals currently account for about 15% of the total number of acute beds.¹ While the foundation for health care systems in the country was laid during the British rule, much progress has been made since independence and the formation of Malaysia. One of the goals of the government's '2020 Vision' is to provide access to health facilities to all its people.

Paediatric specialty services in Malaysia are available under the Ministry of Health in general hospitals, which are the main hospital of each state, and in some larger district hospitals. The Paediatric Institute, which officially opened in 1992, is the only children's hospital and provides paediatric subspecialty services and serves as the ultimate referral centre for the whole country. This service is supplemented by paediatric departments in the three university hospitals and by a few private hospitals that are usually located in big cities. The National Heart Institute was opened in the same year and serves as a major cardiac referral centre for both children and adults.

Demography and health statistics

The population of Malaysia in 1991 was 17.5 million, most of whom live in rural areas. About 40% of the population is in the paediatric age group. The crude birth rate for the same year was 26 per 1000 and the toddler mortality rate one per 1000. The infant mortality rate has fallen from 19.5 in 1982 to 12.1 in 1991.² These data indicate that health care in Malaysia is among the best of the developing countries. This is partly attributed to the improved social, economic, and environmental standards of the country. The budget for health has increased steadily over the years and in 1992 is valued about £500 million; this is 5.4% of the national budget.

Continuing health problems

Communicable diseases characteristic of those in undeveloped countries still remain a major

problem in Malaysia. The three commonest are cholera, typhoid, and hepatitis.² Public apathy towards personal hygiene and a low level of health education are the major contributing factors.

Meningitis still carries a high mortality of about 20% and contributes to approximately 2% of the paediatric admissions in certain hospitals.^{3,4} Streptococcal infections and their sequelae remain a threat. In a survey of consecutive patients seen in a paediatric cardiology clinic in a large city in Peninsular Malaysia, rheumatic heart disease constituted 11.2% of the total 250 patients.⁵ A teaching hospital on the north east coast of Peninsular Malaysia reported 220 children admitted with poststreptococcal glomerulonephritis over one year period from April 1986 to March 1987.⁶ It is encouraging to report that rapid and reliable diagnostic tools for the diagnosis of a number of infectious diseases, for example, typhoid and dengue, have been developed by Malaysians.

In a country with a largely rural population it is not surprising to find a significant incidence of snake bites. In one of the states (Kelantan), a total of 83 children with snake bite were seen over a five year period and the case fatality rate was 2%.⁷

Malnutrition continues to be prevalent in Malaysian children. A recent study of children aged between 6-24 months attending a child health clinic in the capital city revealed an incidence of iron deficiency anaemia of 7.3%.⁸ A survey in an urban squatter population revealed the percentage of underweight children to be as high as 18.9%.⁹ In Kelantan (which is one of the poorer of the 13 states of Malaysia) today, 28.5% of the children below 5 years of age are underweight (source: Ministry of Health). Incidentally, the first case of malnutrition in this country was reported in the medical literature by Cicely Williams.¹⁰ It was she who coined the name kwashiorkor while working in the African subcontinent. Dr Williams and another British doctor, Dr Elaine Field, were pioneers in paediatrics in this country in the 1940s. The latter was responsible for starting the first school for the deaf in 1954.

Emerging health problems

HIV infection as an emerging health problem is being seriously addressed by the Ministry of Health. The first positive HIV case was reported in mid 1986.² Up to August 1992, 3735 people have been infected; this

includes seven children, two of whom were haemophiliacs. A ministerial level committee on AIDS was established in 1992 to check the AIDS scourge.

Changing faces of old diseases are providing doctors with new problems. Cases of chloroquine resistant malaria have been detected in the aborigines in Peninsular Malaysia.¹¹ Dengue, another vector borne disease that affects mainly children in epidemics, is transforming its clinical pattern into a more severe disease with encephalopathy, renal failure, and fulminant hepatopathy.¹² A study on gonococcal ophthalmia neonatorum has shown an increase in the percentage of cases infected with penicillin resistant strains of *Neisseria gonorrhoeae* from 6.4% to 25.9%¹³; fortunately, alternative antibiotics are still effective. Analysis of figures for asthma admissions to University Hospital, Kuala Lumpur in the paediatric age group (under 12) for the years 1981–91 has shown a year to year increase.¹⁴ The overall admission for acute asthma in Malaysian hospitals for 1992 was 20 135 compared with 18 947 in 1985 (source: Ministry of Health). The increased incidence of this disease is known to be associated with increasing affluence and industrialisation. It is believed that as many as 15% of Malaysian children might be asthmatic.

New morbidity of social changes

Non-accidental injury in this country was first reported by Woon *et al* in 1974¹⁵; however, it caught public interest only in 1985 when more than 20 cases were identified at the General Hospital in Kuala Lumpur. In 1987, 147 cases were reported nationwide and in 1991, a tremendous jump to 970 occurred. A child abuse hotline was subsequently set up by the Ministry of National Unity and Social Development and the Child Protection Act which was introduced in 1991 makes it mandatory for medical practitioners to report child abuse to a legislated child protector. Child sexual abuse has resulted in a markedly increased incidence of sexually transmitted disease in children. From 1987 to 1991, the Suspected Child Abuse and Neglect (SCAN) team reported 40 such cases in children; 75% of whom were less than 6 years old.¹⁶

In 1988, over 24 000 children were admitted to government hospitals for injuries due to accidents either in the home, on the road, or elsewhere. There has also been increasing numbers of children involved in road traffic accidents. Their fatality rate has increased from 66 per 100 000 in 1986 to 76 per 100 000 in 1989 (source: Royal Malaysian Police and Statistics Department).

With increased industrialisation and urbanisation, breakdown of the extended family tradition, and the invasion of foreign media and values, older children and adolescents are exposed to significant psychological and social risk. In 1991, 1132 girls were reported as runaways; there were 5780 missing adolescents between 1990–2 (source: Royal Malaysian Police and Statistics Department).

Six per cent of cases of drug abuse in this country were reported to be in the age range 19 and below.¹⁷

Focus on prevention

Primary immunisation programmes in Malaysia are focused on diphtheria, pertussis, and tetanus (DPT), poliomyelitis, tuberculosis, and measles. Hepatitis B immunisation was the latest to be incorporated into the Malaysian extended programme of immunisation in 1989. The average coverage for three DPT and poliomyelitis immunisations is about 83% of livebirths (source: Ministry of Health, Family Health Report). BCG given soon after birth has the best immunisation coverage of around 98%.² However, childhood tuberculosis has still not been eradicated; 316 cases were reported in 1991.² The incidence of diphtheria has been reduced drastically from 115 in 1977 to 26 in 1987 (source: Ministry of Health). Quite unexpectedly two confirmed cases of paralysis after poliomyelitis were recently reported after an absence of six years.¹⁸ Both children were not completely immunised and were members of a religious group who shunned immunisation.

Vitamin K prophylaxis against haemorrhagic disease of the newborn is given routinely by intramuscular injection for hospital newborns. Pockets of incidence of haemorrhagic disease of the newborn,¹⁹ especially in those born outside hospital and thus not receiving vitamin K, has intensified the Ministry of Health campaign for a more widespread coverage of vitamin K prophylaxis. After much discussion, the Ministry of Health has opted for parenteral instead of oral vitamin K prophylaxis and plans have been made to allow midwives delivering babies outside hospitals to give the parenteral injection.

The only nationwide neonatal screening programme currently available in this country is glucose-6-phosphate dehydrogenase (G6PD) screening. This programme has been responsible for a significant decrease incidence of kernicterus in the last 10 years. However, many cases of favism have been reported despite the programme,²⁰ indicating that parents may not have been adequately advised about the condition after their children were identified as G6PD deficient.

It is likely that thyroid screening will be introduced soon. There are no plans for introducing screening programmes for other metabolic diseases. Phenylketonuria, one of the commonest metabolic diseases in the West, is very rare in Malaysia; so far only one case has been reported.²¹

Promotion of child health

A child health card system is being planned nationwide. This will enable parents to record and monitor their child's growth, development, and immunisation status. The system is currently being utilised successfully in East Malaysia and will replace the old system where the cards are kept in the clinics.

The World Health Organisation concept of baby friendly hospitals to encourage breast feeding was launched last year. Based on 1986 national nutritional surveillance data, only 62% of mothers are still breast feeding at six months postpartum in rural areas.²² The 1992 survey at the nation's largest maternity hospital in Kuala Lumpur revealed that only 5% of mothers in the city still breast feed at 6 months.²² The baby friendly hospital programme aims at promoting exclusive breast feeding for the first six months and encouraging it to be continued up to two years' postpartum. The Ministry of Health hopes that all hospitals in the country will be 'baby friendly' by 1997.

It is heartening to note that in 1991 Malaysia was one of the signatories of the Declaration of Rights of the Child thus committing itself to undertake overall advancement of children in this country.

New technologies

Worthy of note is the introduction of a bone marrow transplant service which was initiated in 1987 in the paediatric department of University Hospital, Kuala Lumpur. To date almost 100 transplantations had been accomplished with results comparable with other overseas centres but at about one tenth the cost. The only other transplant programme available in the country is renal transplant. A consensus statement on criteria of brain death was recently published by the Ministry of Health to address problems of getting cadaveric organs.

New drugs reach Malaysia quite soon after their production but must be passed by the Malaysian Drug Control Authority before being available for patient use. This approval may be waived on compassionate grounds and on individual merit. Thus 'designer drugs' like interferon, colony stimulating factors, etc, are readily available; artificial surfactant has been available for use since 1992.

In the entire country there is only one Ministry of Health hospital with magnetic resonance imaging facilities and while progress has been made in development of neonatal intensive care units, a good neonatal transport system is still lacking.

Quality/inequality of care

The Ministry of Health launched an ongoing quality assurance programme nationwide in 1985 to ensure patients, their families, and the community in general receive optimum health care. Paediatric indicators used in this programme include incidence of kernicterus, tetanus neonatorum, hospital admissions for childhood asthma, and prevalence of visual handicap, with the aim of improving the quality of care provided.

The Malaysian Paediatric Association, established in 1978, has to some extent served as a watchdog and adviser on the quality of paediatric care in the country. Its active sub-committees include paediatric intensive care,

thyroid screening, neonatal data collection, accident prevention, and health provision for children on estates. The association also conducts regular courses, scientific meetings, and lectures as part of its continuing medical education programme.

Given the unequal distribution of wealth among the states, difficulties of communications, and differing terrain, however, it is not surprising that better facilities are more readily available in the larger cities. For example, the doctor to population ratio in the Federal Territory (Kuala Lumpur) is 1:717 compared with 1:5061 in Sabah (one of the states in East Malaysia) (source: New Strait Times Press Research Information Services). This disparity is mainly due to the preference of private doctors to work in private hospitals or clinics in larger cities such as Kuala Lumpur. This issue is constantly addressed by the Ministry of Health and a flying doctor service has been made available in East Malaysia in an attempt to remedy this situation. A period of compulsory service with the ministry, during which they may have to serve rural areas, is imposed on all graduating doctors.

Modern medicine is still looked upon with distrust by many in certain areas. They will only take their child to the hospital after failed treatment by traditional healers. Thus, childhood cancers in advanced stages are more commonly seen than in developed countries and the drop out rate is high. One third of childhood cancer patients managed by the author in a teaching hospital on the north east coast of Peninsular Malaysia dropped out before completing treatment; more than three quarters of patients with acute childhood leukaemia refused cranial irradiation even though it was the only form of cranial prophylaxis offered. The fact that they had to travel 400 km for radiotherapy and lived in poor socioeconomic conditions could have been contributing factors. Currently, radiotherapy facilities are available in only three larger cities in Malaysia.

Research

Research is actively pursued, especially in the paediatric department of the three universities and in the government hospitals. The country has a prestigious Institute of Medical Research which has been in existence since 1901. Research results are presented at local and international meetings and published either in the local or foreign journals. The *Malaysian Journal of Child Health*, first published in 1989 and the *Medical Journal of Malaysia*, established in 1947 (as the *Medical Journal of Malaya*) caters for local publication. An important source of funding for big research projects come from research and development funds allocated under the five yearly Malaysian Plan. A sum of about £100 million was allocated under the 5th Malaysian Plan (1986-90) to be divided between six sectors: medical, agriculture, industrial, strategic, social science, and defence.

Manpower and training

In 1992, there were only 48 paediatricians in the Ministry of Health hospitals whereas about double this number were working in private practice and in teaching hospitals. The target requirement for paediatricians in the Ministry of Health by the year 2000 is estimated to be 227 to provide optimal service in general and district hospitals. This figure is based on the estimated need of one paediatrician for every 2500 children. The government is hoping to achieve this target by introducing a local postgraduate training programme in the three local universities. This takes the form of a four year master of medicine course in paediatrics. Some 20 paediatricians have already graduated from these courses since their introduction in 1984. Current yearly intake is about 20. At the same time a significant number of doctors became paediatricians the 'traditional' way – that is, by doing the British MRCP examination. It is likely that the MRCP may not be recognised once the local programmes are producing sufficient good quality paediatricians. The problem of insufficient paediatricians in the government service is partly contributed to by poor working conditions compared with those in private practice. Hence there is a constant exodus from the former to the latter. To some extent, this flow is checked by the contract imposed by the ministry on its sponsored postgraduates. While trying to increase the number of paediatricians, the development of paediatric subspecialties is being looked into by the Ministry of Health. Available, albeit still inadequate, subspecialties include haematology, oncology, neonatology, cardiology, respiratory paediatrics, endocrinology, neurology, nephrology, and social paediatrics. Unfortunately, these subspecialties are concentrated in the capital city, Kuala Lumpur, and there are tendencies of overlapping of services in different centres even in the same city.

Related to the development of paediatric services is the availability of trained nurses. The rapid increase in the number of hospitals and exodus of nurses overseas resulted in a chronic shortage, so much so that expansion in high dependency/intensive services such as neonatal services is difficult to achieve. None of the neonatal intensive care units in the country can provide one to one nursing care for its ventilated babies. To overcome the shortage, some private hospitals have started their own nurses' training programme – a responsibility solely of the Ministry of Health and the university hospitals in the past.

Other shortcomings

National data collection remains a big problem in Malaysia. For example, there is no reliable cancer registry. To overcome this, the Malaysian Childhood Cancer Study Group is currently conducting a three year cancer incidence survey. Despite an all out effort to register cases, it is likely that cancer is still under reported.

Mortality statistics may not be accurate as

not all causes of death are medically certified. In 1991 only 42% of deaths were certified,² most of these were not confirmed by post-mortem examination because consent is usually not forthcoming.

Statistics indicated that about 20% of infant deaths are due to congenital abnormalities but a service for chromosomal analysis is not easily available. Sophisticated antenatal diagnosis services are also not developed because of the objection to therapeutic abortion.

Immunisation coverage, although among the highest in developing countries, is still not fully satisfactory. The emergence of certain religious groups that do not believe in immunisation and the increasing immigrant population are likely to pose problems in eradicating communicable diseases.

There is much room for improvement in the management of disabled children. Expensive treatment of chronic diseases is not easily available. For example, at one of the best paediatric centres only about 25% of children with thalassaemia major receive iron chelation treatment.²³ It is fortunate that a disease like cystic fibrosis is non-existent in this country otherwise it would put great demand on resources.

Conclusion

Malaysia has made a great stride forward in its paediatric services as indicated by its basic health indices. It is likely that the country will be able to train all of its paediatricians in the near future. However, there are still problems to be addressed. Low levels of hygiene and health education and the persistent belief in the traditional medicine practised in villages are hampering efforts to improve health provision. Urbanisation and progress in cities, while providing easier access to health care, are associated with changes from third to first world morbidity patterns and health problems. These changing faces of diseases and new emerging health problems require constant surveillance. Disease prevention needs to remain a high priority.

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