
CHALLENGES

Paediatric care in Hungary

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This is the fifth paper in a series showing the problems facing the medical services for children in different countries.

Child health in Hungary has historically been an important priority. Hungary was a pioneer in inaugurating obligatory vaccination against smallpox in 1876. The fourth paediatric hospital was founded in Budapest in 1844, after Paris, St Petersburg, and Vienna. It is interesting too to note that the second paediatric hospital in England was founded in 1856 by Whithead and Schöpf Merai. Schöpf Merai was a Hungarian refugee from a revolution against Austria.

The health care of children in our country is loaded by many problems, the most prominent being limited monetary support and the low sociocultural level, reflected by the fact that only 15.8% of the population has a high school education and 6.4% are graduates from colleges or universities. Before the second world war Hungary was half feudal, half democratic; after the war it became communist. The medical care budget in Hungary is £80 per person per year; in contrast, it is £1100 per person per year in the United States.

The most urgent problems facing Hungarians are: (1) the high infant mortality; (2) the limitations attending cardiac surgery, especially paediatric cardiac surgery; (3) the lack of modern diagnostic tools, particularly magnetic resonance imaging and computed tomography; (4) the unavailability of certain life saving transplantation procedures, for example, bone marrow and liver; (5) the lack of overnight facilities for parents in most hospitals; (6) problems of child welfare and mental health; and (7) the need to overhaul the medical care system emphasising preventive and curative care, and to find the most suitable method of financing and organising it to adapt to the new democratic structure.

Infant mortality

Infant mortality has decreased from 32 per 1000 to 14.8 per 1000 in the past 15 years, but the rate is still unacceptable. The main culprits are the high rate of premature births (9.2%) and the weight-specific mortality, which is also unacceptable, especially in very low birthweight infants. Smoking, other unfavourable kinds of behaviour, the number of previously induced abortions, and lack of prenatal education and care have all been implicated as causes of premature births.

Although pregnant women receive benefits for prenatal consultations, behaviour during pregnancy has improved only slightly. Contraceptive education is not readily available in schools. The importance of a suitable time interval between pregnancies is almost unknown

among young women. Counselling after artificially induced abortion is mandatory, but is seldom practiced.

Even educated and cultured Hungarians do not readily accept current contraception information; in most families the responsibility of birth control is left entirely to the woman. Hence despite the availability of oral contraceptives and condoms, 38.6% of pregnancies are aborted. This is unethical, has an unfavourable psychological effect on the mothers, and is disadvantageous in relation to the outcome of the next pregnancy. Permission for induced abortion is not difficult to obtain. Criteria include two children already in the family, genetic problems, social indications, and teenage or out of wedlock pregnancy. More stringent restrictions might decrease the number of such abortions.

One severe problem has been the high infant mortality among people in the lower socioeconomic classes. Many gypsies live in extremely poor circumstances. Their appearance in Hungary dates from the 14th century, and their number has increased gradually. It is now estimated that about 5% of the Hungarian population consists of gypsies. However, in a few counties it is between 7% and 10%, particularly in some small villages, whose populations consist almost entirely of gypsies. Gypsy women are reluctant to attend perinatal education classes. In 1970 the infant mortality among gypsies was 116 out of 1000 births, while the national rate was 35.8 out of 1000 births. The medical profession attempted with special care to rectify this unacceptable situation; in 13 counties of the 19 from which data were available in 1990, the infant mortality among gypsies was 22 out of 1000, and the national rate was 14.8 per 1000.

Many factors were responsible for this welcome decrease in infant mortality among gypsies: (1) special attention was given to them by health care visitors, and medical check ups were done more frequently. (2) Resident nurseries are free for poor patients. (3) Vitamins are supplied free for pregnant women and infants. (4) Vaccinations are available in the home if necessary. (5) Education in hygiene and better health habits for adolescents and pregnant women. (6) Special incentives for practitioners and health care visitors. (7) Better education provided by the schools.

Very low birthweight infants need special care, especially in the form of intensive treatment, parenteral nutrition, and respiratory treatment. Between 1960 and 1970, 10 neonatal intensive care units (NICUs) were established

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with governmental support. However, inadequate funding has hampered the organisation of good transport for newborns to these centres, the hiring of sufficient personnel, and the installation and maintenance of equipment. Nine more NICUs in regional hospitals have been opened with local economic support. Their financial problems are highlighted by the estimate of 320 million HF (£2.5 million) needed to bring these units to a medically acceptable level. The scarcity of trained paediatric nurses is a particular problem: one nurse has the responsibility in one shift for an average of four newborns.

Cardiac surgery

The incidence of congenital heart disease in Hungary is one in 200. About 50% of the affected children would need surgical correction during the first year of life. There are now two centres for cardiac surgical intervention: 90% of the surgery in Budapest, at the Semmelweis University, and 10% in Szeged. The Budapest centre is too small and the equipment is inadequate. The turnover in nurses is high because of the patient load. During the summer vacation period, the surgery must shut down because there is no second team. Although the surgeons are well trained, the lack of facilities is a limitation. The waiting time for open heart surgery is about one year.

Modern diagnostic tools

The new imaging techniques are essential in paediatric diagnosis, but there are only two magnetic resonance imaging units in the entire country, which has a population of 10.6 million. In the diagnosis of brain tumours, for example, magnetic resonance imaging would be extremely valuable. Ultrasound imaging is available and there are now 13 computed tomography facilities; the waiting time for such an examination is 10 to 15 days. More computed tomography and magnetic resonance imaging equipment is urgently needed for adequate diagnostic work. Fortunately, children usually get priority in urgent cases.

Transplantation

Before 1991 there were only two bone marrow transplantation units in Hungary: one with two beds and one with four, all for adults. In December of that year a unit with two sterile tents was opened to care for immunodeficient children. Clearly the problem of bone marrow transplantation in children is a serious and as yet unresolved one. A new unit, with three sterile beds, is now under construction and should be ready to operate in 1993. Until then most of our children are obliged to go abroad for transplantation, an expensive proposition for Hungarian citizens, as health insurance covers only about a tenth of the cost. The rest is paid by the parents or by foundations.

So far no successful liver transplantation has been performed in Hungary. Renal transplantation is well organised, but the waiting time for a cadaver donor is usually one to two years.

Parents' stay in hospital

There are few opportunities for parents to stay with their children in hospitals. There are no Ronald McDonald Houses, as there are in several Western countries, and there are only a few institutions where parents can stay overnight with their sick children. Furthermore, rent in the cities is exorbitant. In our institution, which has 230 beds and houses a national oncology centre as well, there are only three rooms with beds for children and their parents.

Child welfare and mental health

Working mothers with children younger than 3 years of age can remain at home, they receive financial support at the place of employment, and their jobs are kept open for them. However, this option is becoming more difficult because of the worsening economic situation of most families. Despite this situation, the number of infants in day care centres has not increased.

The state grants custody, either in institutions or to foster parents, of children who are not or cannot be cared for by their parents or who need protection. Although the number of children at risk is increasing, the number of children in the custody of the state is diminishing; it is now 0.97%. Thus more parents or other relatives care for the children, with some social and psychological assistance. In 1988 foster parents were granted custody of 29.4% of these children. In the main, their care in such foster families is satisfactory. Of children cared for in institutions, fewer are attending secondary schools or universities (1.26% compared with 3.02% of children in foster families). The result is that beginning a career or finding a suitable occupation is difficult. Adoption, an appropriate solution for children in need, became slightly easier in 1990, but it is far from ideal: at the end of 1989 there were 1737 couples waiting for children to adopt.

Mental health clinics and other centres are run by volunteers and school psychologists. There are consultation centres for the parents of troubled schoolchildren, and in severe cases (12%) these children can be seen in psychiatric outpatient clinics.

The great mental health problems are developmental retardation, particularly in reading, attention, and orientation; adaptation difficulties; emotional disturbances; and attempted suicide, which has been a problem for centuries. Hungary has one of the highest suicide rates in the world. In 1970 the incidence of suicide among adolescents 15 to 25 years of age was 19.2 per 100 000 population; by 1990 it has decreased to 13.6 in 100 000.

Family help centres handle four million cases, that is, 38% of the entire national population. Rearing consultation centres handle 80 000 schoolchildren (3.9%), and child psychiatric outpatient clinics 30 000 (1.4% of schoolchildren). The most severe pathological patients are cared for in 'educational establishments'. The number of psychologists is completely inadequate to the task.

Families are now trying to cope with additional stresses: unemployment is increasing; in

1987 the number of unemployed was 6400, and in 1991 it was approximately 300 000. Because of inflation, the real income of most families is rapidly decreasing. There is less job security, and the value of pensions is also decreasing. The rate of divorce has remained on a plateau, but its costs are still isolation, alienation, and single parent families.

The rate of accidents among children is decreasing. In 1970 it was 0.19 per 1000. In 1980 it was 0.14 per 1000, and in 1989 it was 0.12 per 1000. Its prevention is a challenge. Drug abuse, estimated to be 1% among children, has not yet emerged as a serious problem. Child abuse, as in other countries, is difficult to measure, as it frequently goes undetected or unreported.

The changing health care system

The changing economic and political system in Hungary, as well as the advances in medicine, has mandated a reorganisation of the health care system. Until recently the entire medical network—primary care, specialists, consultation centres, and hospitals—was supported by the state, that is, the Ministry of Welfare, and the health budgets of cities and counties. This support was independent of the quality and quantity of care, although from time to time inspections and audits were made by the chief paediatric administrator of the county or the National Institute of Paediatrics, and recommendations for the improvement of local health care were relayed to the appropriate authorities.

Special programmes, such as neonatal intensive care units, cardiac surgery, and paediatric oncology, were supported by the Ministry of Welfare.

In the cities and larger villages, the primary care of children younger than 14 years was provided by paediatricians; 40% of the children, who lived in smaller municipalities, were cared for by general practitioners. Both paediatricians and general practitioners were aided by health visitors, who counselled and educated pregnant women and their families concerning general hygiene, vaccinations, nutrition, and child rearing. Health care visitors also made regular home visits.

Responsibility for primary care now rests with local autonomic authorities, who appoint the physicians and health visitors. Beginning in 1992, the income of primary care physicians will depend on the number of patients registered with them and on the quality of the care, to be financed by health insurance. Family doctoring will be a specialty. Medical school graduates, general practitioners, and paediatricians can qualify as a family doctor after training and an examination. The Semmelweis Medical School recently established a chair for this specialty.

Primary care physicians may be solo general practitioners, family doctors, paediatricians, or members of group practices. Parents have the choice of registering their children with either a family physician or a paediatrician. In the meantime, medical schools should include more studies in paediatric and internal medicine in their curricula.

The predominant objective of the new system

is to stimulate better preventive care of the whole family and better primary care of disabled or chronically ill persons, as well as children in need. However, the transition is not easy, as full time private practice has been unknown in Hungary for the last 40 years. In addition, too much time was consumed by administrative work rather than actual medical practice.

The role of health visitors should also be better defined. Their activities during pregnancy and after delivery have helped to guarantee that every pregnant woman and new mother will receive assistance and advice on rearing their children. It is also imperative that every infant, including those in the lowest socioeconomic categories, receive the attention of health visitors.

Previously every primary care paediatrician had two health visitors working with him or her, and every general practitioner caring for children had one such visitor. In the new system, it is possible that children living in the same geographic area will be cared for by different physicians. The health visitors, however, should work in the same area where they worked before. In this way those children whose parents do not attend welfare clinics should also be cared for by health visitors. On the other hand they will work together with several primary care doctors. This extra workload for the health visitors means a danger that the exchange of information between them and primary care doctors will suffer.

Administration of the health visitors will be handled by the chief health visitor in the county and the counties medical office. However, they should maintain close ties with the primary care physicians. One health visitor now ordinarily cares for about 483 children (including 139 infants), but of course the number varies according to the sociocultural level of the region.

The new method of financing medical care according to its quantity and quality may improve the extremely low income of physicians. The monthly net income of a physician, without overtime pay for night service, ranges from 15.000 to 25.000 HF, the equivalent of \$200 to \$300 in the United States. Most physicians therefore have a low standard of living, unless their spouses also work outside the home. As a result many physicians, sometimes the best practitioners, prefer to work abroad for long periods of time or gravitate to the pharmaceutical companies with their better pay structures. It is feared that this may constitute a 'brain drain', and that young medical graduates will be discouraged from entering clinical, research, and teaching positions.

Research grants are also inadequate financially. The results are that necessary equipment and the hiring of competent technicians are only rarely possible. In the past year only a few grant applications were accepted by the Ministry of Welfare, with the maximum funding equivalent to \$12.000 a year.

Summary and conclusions

In this overview, I have attempted to highlight

the problems of medical care, particularly paediatric care, in Hungary and to describe the changing nature of its organisation and financing. We hope that through our efforts we can

surmount these difficulties, improve the quality of medical care in our country, and create a more rational economic and scientific basis for future medical development and advances.

Maternal diabetes and the fetal heart

It has been known for 16 years that maternal diabetes may be associated with hypertrophy of the cardiac interventricular septum in the fetus. Two recent reports provide further information about the association.

A study from Cleveland, Ohio (Jean-Claude Veille and colleagues, *Obstetrics and Gynecology* 1992;79:51-4) provides information about 64 diabetic pregnancies and 61 controls. Septal thickness measured by echocardiography was significantly greater in the fetuses of diabetic women than in controls at all gestations from 20 weeks upwards. In the diabetic group the hearts were bigger overall but the hypertrophy of the septum was relatively greater than the increase in total heart size or of the ventricular wall. Seventy five percent of the fetuses had septal hypertrophy (more than 2SD above the mean for controls of the same gestational age). One fetus died in utero soon after the demonstration of very marked septal hypertrophy. Twenty two women had glycated haemoglobin measured and there was a correlation between glycated haemoglobin concentrations and septal thickness ($r=0.49$, $p=0.05$).

Workers in California (Michael J Cooper and colleagues, *American Journal of Diseases of Children* 1992;146:226-9) studied 61 pregnant diabetic mothers who were followed up to delivery at 36 or more weeks' gestation. Using more restrictive criteria for diagnosis they found the incidence of septal hypertrophy at birth to be 31%. Their data also differ from the Ohio findings in that they did not find significant increases in septal size before 31 weeks' gestation, a finding perhaps in part explained by the fact that they did not have a control group but compared their findings throughout pregnancy in those who after birth had septal hypertrophy by standard criteria and those who did not. This study provides more detailed information about the relationship between septal hypertrophy and diabetic control.

The mothers of babies with septal hypertrophy had significantly higher glycated haemoglobin concentrations in the third but not in the first or second trimesters. The babies with septal hypertrophy were significantly heavier and had lower blood glucose concentrations postnatally and higher cord blood C peptide concentrations than those without it.

The septal hypertrophy apparently resolves in the first year of life and rarely causes symptoms, although it has been suggested that it may be associated with persistent pulmonary hypertension and idiopathic respiratory distress syndrome. Its main significance seems to be as yet another indicator of poor diabetic control in pregnancy.

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