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Japan’s healthy babies—an American doctor’s view

Infant mortality in Japan is low, as are health care costs. These facts may be reflections of Japanese cultural traditions rather than of the level of medical care.

The Japanese infant mortality rate is half of that in the USA (1), yet per capita expenditure on health care in Japan is approximately a third of that in the USA (2). These facts suggest an extraordinarily efficient infant health care system. Site visits to health care institutions in Tokyo, Nagasaki, and Okinawa were conducted to identify aspects of the Japanese system that could be extrapolated to other nations.

Sociocultural factors

Japanese life, in general, involves a great degree of courtesy and politeness. The physician is highly respected in Japan. He has a professional dignity and self-confidence that is remarkable to an American observer. For hospital doctors, salary is unrelated to medical specialty, workload, or experience. Accordingly, the distribution of medical specialists in the country may not reflect social need. The Japanese nurse is viewed as a hard-working angel of mercy. The workload of a Japanese nurse is generally greater than that of an American nurse. There is some financial recognition of experience, but perception of the social contribution of the nurse is an important source of professional gratification.

Birth control education begins in the fifth grade, timed to correspond with the onset of menstruation. Responsibility rests with the female. Abortions are performed till the sixth month of pregnancy. Indications for termination of pregnancy include “economic hardship”, under the Japanese Eugenic Protection Law.

Women in Japan marry at an average age of 25 years. Teenage pregnancy is unusual. In 1983, in all of Japan there were 19 live births to mothers less than 15 years old (1). Teenagers who do become pregnant generally terminate their pregnancies; not to do so would be a source of great embarrassment for the girl and her family.

Children are particularly treasured in Japan. In the traditional Japanese family, children help dissipate tension between parents. Interestingly, the nuclear family that is now appearing in Japan is being associated with higher levels of maternal frustration—mothers miss the assistance at home from the grandparents.¹

¹ Personal communication, Chojiro Kunii, Executive Director, Japanese Organization for International Cooperation in Family Planning.

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Maternal and child health

The maternal and child health system is hailed by Japanese authorities as the main reason for the dramatic decline in maternal and infant mortality over the past three decades (3). The programme was intended to identify and treat problems in the pregnant woman and her offspring at an early stage. A woman is required to register her pregnancy with the authorities of her prefecture. Within two weeks, an attractively printed invitation to visit the local maternal and child health centre is mailed to the woman.

The centres conduct monthly check-ups for infants, with the emphasis on examinations at one, three, six, and nine months. Subsequently, health examinations are given twice a year until the child is 6 years old. When needed, a public health nurse will make home visits. Nutritional guidance is provided for expectant and nursing mothers as well as for infants and children. Mothers and health care personnel, when interviewed, generally said that the maternal and child health services were successful because they blended well into everyday life, their personnel were seen to be well motivated, and they were genuinely appreciated in the community.

Hospital care of newborns

There is a general trend for most newborns in Japan to be delivered in hospitals. Private clinics will deliver 100-300 infants per year. Public hospitals generally deliver 500-1000 infants per year, although there are some that deliver many thousands.

Levels of reimbursement for obstetric services are relatively low. There is reportedly very little fetal heart rate monitoring, partly because of low levels of reimbursement and partly because of a generally low level of concern about medical malpractice litigation.²

Newborn intensive care units with an average of 20-30 patients are staffed by one neonatologist, sometimes aided by paediatric house staff or another physician less experienced than the director. An American newborn intensive care unit of comparable size often has three fully trained neonatologists.

There seem to be fewer admissions into these units for a given number of births in Japan. In Nagasaki prefecture, 30 newborn intensive care unit beds support 9000 deliveries per year. One hospital in Nagasaki city delivers 6000 infants per year, but has a newborn intensive care unit with only 10 beds. These proportions are only half the comparable ratios that exist in America in the author’s experience.

The cost per day in a Japanese newborn intensive care unit is several times less than the cost in the USA.³ ⁴ Japanese infant health care costs are relatively low because both the level of remuneration for services and the budgetary fraction devoted to personnel are relatively low. At Nagasaki

² Personal communication, Hirokatsu Kitai.
³ Personal communication, Tadashi Masumoto.
⁴ Personal communication, Kaoru Ashimine.
Chuo National Hospital, for example, only 37% of the budget of the newborn intensive care unit is devoted to personnel.

Representative yearly salaries for personnel working in the Nagasaki unit are lower than those in the USA and the workload is often greater. That hard work may be related to low costs is supported by a statement that was echoed by most of the neonatologists interviewed: "We need more manpower. Otherwise I shall have to give up neonatology someday. But if we ask for too many personnel, medical costs must be raised and insurance schemes may go bankrupt."

**Japan and USA compared**

It seems that Japanese infants are born healthier than are infants in the USA (Table 1). This concept is consistent with the particularly high American neonatal mortality rate (Table 2) despite relatively high levels of staffing in the newborn intensive care units and resource availability. Note, too, the disproportion of American infant deaths of perinatal etiology (Table 1). If low staffing levels in the newborn intensive care units and fatigued personnel with variable levels of training and experience have not raised concerns in Japan, then perhaps in-hospital differences for infants in the two countries play a relatively small role in overall neonatal outcome.

The Japanese maternal and child health system is of key importance. Note the dramatic decline in infant mortality since the maternal and child health programme was begun (Table 3). The infant mortality rate in 1975 was lower than the current rate in the USA. Yet the current rate in the USA is influenced by a more sophisticated system of newborn intensive care than could have existed in Japan in 1975. Interestingly, mortality rates for children aged 1-4 years are similar in the two countries. Thus, perhaps more important than the existence of a sophisticated system of hospital care for infants is the existence of a mechanism to ensure the health of the woman and her fetus. Such health appears to stem less from high technology and high-cost medical care than from the integration into

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<th>Table 2. Infant mortality rates (per 1000 live births), by age (in days)</th>
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<th>Table 3. Infant mortality rates (per 1000 live births), from 1950 to 1982</th>
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Japanese life of the more basic considerations in prenatal health care. The relatively high Japanese maternal mortality rate (22.9 per 100 000 live births compared with 9.6 in the USA) is consistent with this analysis, highlighting that when complex medical care is needed, it does not appear to eclipse that which is available in the USA. Indeed, the low annual delivery rates at many hospitals may impede the acquisition of expertise in the management of peripartum morbidity.

Wegman (4) has observed that “the countries with higher infant mortality... have higher proportions of mothers younger than 20 years of age.” “Mores are transferable,” he says, pointing out that women of Japanese ancestry seem to maintain the custom of childbirth after age 20 even in very different sociocultural settings. In California from 1979 to 1983, the proportion of Japanese to non-Japanese mothers younger than 20 years was less than one third. Infant mortality among Japanese in California is lower than among Caucasians.

In conclusion, it appears that Japanese infant mortality is low because Japanese life-style and its integrated health care system produce newborns who are relatively healthier at birth. Society exercises greater control over expenditures for health care while preserving other sources of professional gratification. The system’s efficiency is social rather than technological.

References