Maternal and Child Health Handbook in Japan

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Drastic Upgrading of Maternal and Child Health in Japan

Japan was itself a developing country just after the Second World War. After the Second World War, the crude birth rate dropped sharply from 34.3 per 1,000 people in 1947 to 8.6 in 2007 (**Fig. 1**). The total fertility rate also declined rapidly from 4.54 in 1947 to 1.34 in 2007.[1] There was a sharp fall of the birth rate (about 26 % fall of the previous year) in 1966, a year without disaster or famine. This year was a "Hinoeuma," the year of the horse in the Chinese calendar, when many couples did not want babies because of the traditional belief that girls born in a "Hinoeuma" year will be dangerous, headstrong and generally bad luck for any husband. Most parents knew that there was no scientific evidence to confirm the effects of "Hinoeuma." However, many parents did not have babies this year because of this belief. Maternal and child health is one of the most conservative fields because each ethnic group has preserved its traditions related to pregnancy, delivery and child-rearing.

The infant mortality rate (IMR) has shown a drastic and constant decrease from 76.0 in 1947 to 2.6 in 2007 (**Fig. 2**). The IMR decreased by about 50% for every decade; IMR was 60.1 in 1950, 30.7 in 1960, 13.1 in 1970, 7.5 in 1980, and 4.6 in 1990.[1] The decrease rate of IMR was constant and lower than the rate of decrease of the target of the Millennium Development Goals (MDGs). The life expectancy at birth as of 2007 was 86.0 years for females and 79.2 for males. The female life expectancy is the longest in the world.

A joint US and Japanese research team compared the IMR in Japan and the United States (**Fig. 3**). In 1950, the IMR in Japan was about double that of the US. However, in 1964 the IMR in Japan dropped below that of the US, despite the fact that Japan was still a poor country with GNP per capita of only 780 US dollars. In that year, the Japanese Government even had to request a loan from the World Bank to build the bullet train. The state of the economy cannot explain everything. Even though the economic situation is poor, people can still enjoy healthy and happy lives. The joint research team reached five possible explanations for Japan's low infant mortality rate; narrow socio-economic distribution, national health insurance, the maternal and child health (MCH) handbook, population-based screening and health check-ups and high value placed on childbearing.[2] While Japan's experience is different from that of many developing countries, the MCH Handbook program might be just as important a tool in ensuring the quality of life of mothers and children.

MCH Handbook Program in Japan

In 1947, *Boshi Techo* (Handbook of mothers and children) was firstly distributed by the Ministry of Health and Welfare, Japan. The 20-page handbook consisted of registration, maternal care, deliveries, health checkup of the child, and food rations. In 1966, the Law of Maternal and Child Health was issued. *Boshi Kenko Techo* (Maternal and child health handbook) was defined in the law instead of the handbook of mothers and children. To add "Health" was an epoch-making

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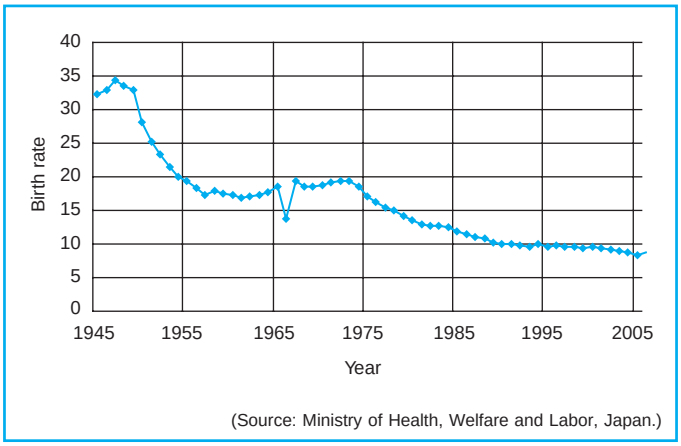

Fig. 1 The trends of crude birth rates in Japan

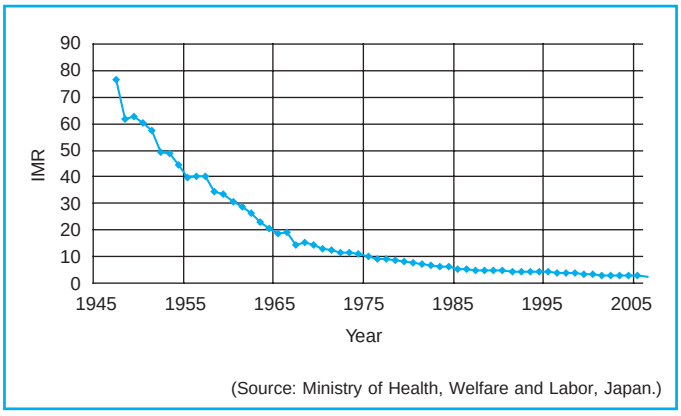

Fig. 2 The trends of infant mortality rates in Japan

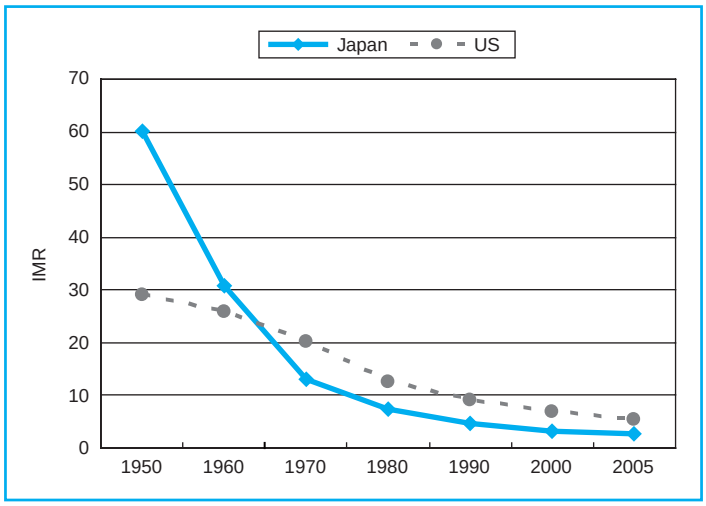

Fig. 3 Infant mortality rates in Japan and the United States

Table 1 History of the MCH Handbook program in Japan

Year	Activity	Remarks
1937	Law of the protection of mothers and children	Poor families with pregnant mothers and/or children
1942	Handbook of pregnant mothers	Register system for pregnant mothers with 8-page handbook for pregnant women.
1947	Law of child welfare	There were many street children in Japan.
1948	*Boshi Techo* (Handbook of mothers and children)	20-page handbook consisting of MCH care and food rations.
1966	Law of maternal and child health	
1970	*Boshi Kenko Techo* (Maternal and child health handbook)	
1991	Decentralization	MCH Handbook was distributed by municipalities, towns and villages.
2002	Upgrading of MCH Handbook	The handbook containing 49 pages was defined as the national version.

innovation from the perspective of the health promotion of mothers and children. From 1991, MCH Handbooks have been distributed by municipalities, towns and villages, in consideration of decentralization. In 2002, the MCH Handbook was upgraded. It consisted of 49 pages as a national version, and the local governments could add local information according to their own needs (**Table 1**).

The role of the MCH Handbook has changed due to the child health situation. When IMR in Japan was high, the MCH Handbook focused on fighting against starvation and infectious diseases. As IMR decreased, the MCH Handbook played an important role in promoting population-based screening and strengthening early detection and early treatment for children with disabilities. Now psychosocial support for childrearing is one of the most critical issues when the number of newborns has decreased drastically.

The MCH Handbook consists of records of pregnancy, delivery and child development and healthcare (**Table 2**). The MCH Handbook is distributed at offices of local governments when pregnancies are registered. Obstetricians, pediatricians, public health nurses and midwives may write down medical records in the MCH Handbook at hospitals, clinics or health centers. Parents bring MCH Handbooks to clinics when their children get sick. The coverage of the MCH Handbook is almost 100%. Most parents keep MCH Handbooks until their children are married.

A well-structured questionnaire survey was carried out in 231 municipalities, towns and villages of four prefectures in 1999.[3] Among 13,271 guardians who visited 18-month health examinations of their children, 98.3% of respondents had read the MCH Handbook and 97.8% of them had made written entries in it. Only 0.9% of respondents had lost their MCH Handbook. Generally, 87.0% of respondents answered that the MCH Handbook was helpful for child bearing and 81.6% of them said the record of immunization was useful. The research shows that the MCH Handbook is highly utilized in Japan and almost all guardians have read and written in their MCH Handbook. However, there are still problems to be solved; many guardians feel that the MCH Handbook is not so easy to utilize and the articles on dental health are not widely used.

MCH Handbook in the World

At present, the MCH Handbook program is being introduced in more than 20 countries including both developing countries and developed countries (**Table 3**). The MCH Handbook is distributed as a national program in Indonesia, Thailand, South Korea, Utah State in the USA, and some West African countries. The pilot projects of the MCH Handbook are supported

Table 2 The contents of the MCH Handbook in Japan

Pregnancy and delivery:
Health record during pregnancy
Mother's occupation and home environment
Progress of pregnancy
Record of delivery
Progress of the mother after delivery
Weight chart during pregnancy and after delivery
Dental hygiene during pregnancy and after delivery
Mother's class record
Child development:
Baby's record (first 4 weeks after birth)
Development of the newborn baby
Guardians' record and health examination at 1 month old
Guardians' record and health examination at 3–4 months old
Guardians' record and health examination at 6–7 months old
Guardians' record and health examination at 9–10 months old
Guardians' record and health examination at 1 year old
Guardians' record and health examination at 18 months old
Guardians' record and health examination at 2, 3, 4, 5 and 6 years old
Height and weight growth chart for boys and girls
Head circumference chart for boys and girls
Dental health examinations
Immunization and illness:
Immunization record
Record of childhood illness
Health education
For healthy pregnancy and birth
The neonate
Child care
Nutrition
Dental care
Immunization

Table 3 MCH Handbook programs in the world

1.	**National program**
	Japan, Burkina Faso, Cote d'Ivoire, East Timor, Indonesia, Niger, Senegal, South Korea, Thailand, Tunisia, USA (Utah)
2.	**Pilot project supported by UN agencies, JICA and NGOs**
	Afghanistan, Bangladesh, Bhutan, Brazil, Brunei, Cambodia, Dominican Republic, Lao PDR, Kenya, Madagascar, Mongolia, Palestine, Peru, Philippines, Vietnam
3.	**Planning to introduction**
	India, Moldova, Nigeria, Turkey

by United Nation (UN) agencies, Japan International Cooperation Agency (JICA) and non-governmental organizations (NGOs) in many countries, such as Bangladesh, Brunei, Cambodia, Dominican Republic, Lao PDR, Kenya, Mongolia, Palestine, Philippines, and Vietnam. In some countries, the plan to introduce the MCH Handbook is under consideration.

In Thailand, the MCH Handbook was officially published in 1985. Since then, the MCH Handbook has been a major feature of MCH services in Thailand and has played an important role in promoting the health of pregnant mothers and children. The first handbook consisted of only 12 pages. From 1989 to 2008, the MCH Handbook was periodically revised and updated to meet the evolving needs of both providers and users.[4] Now, the MCH Handbook in Thailand is

one of the most beautiful handbooks in the world with many color photos and illustrations. Its format includes records of antenatal care examinations, information about proper practice during pregnancy, pertinent information related to delivery, records of post-partum examinations, child growth chart of weight and height, child development and immunization records.

In Indonesia, the MCH Handbook was developed as a pilot trial by JICA in Salatiga City, Central Java Province in 1994.[5] Many separate cards and leaflets were integrated into one MCH Handbook. From 1997 to 2003, a project "ensuring the quality of MCH services through the MCH Handbook" was conducted by JICA and the Ministry of Health, Indonesia. The Minister of Health, Indonesia declared in 2004 that every child should be provided with an MCH Handbook and all the healthcare workers should educate parents by using the MCH Handbook. Kusumayati revealed by a repeated cross-sectional study in West Sumatra that the utilization of the MCH Handbook was associated with better maternal knowledge regarding antenatal care, tetanus toxoid (TT) immunization and skilled birth attendants.[6] The utilization of the MCH Handbook has the potential both to improve maternal knowledge and to increase the utilization of maternal health services.

In Vietnam, the MCH Handbook was introduced in 1998, in the Mekong delta province of Ben Tre, by a Japanese NGO, The Support of Vietnam Children Association (SVCA). The MCH Handbook had been used in all the communes in Ben Tre Province by 2004.[7] The experience of the utilization of the MCH Handbook in one province expanded and influenced other provinces and the central government. The Ministry of Health made plans to use the MCH Handbook nationwide and developed a national version of the MCH Handbook in 2009. The MCH Handbook is expected to achieve MDG 4 and 5 in collaboration with international organizations.

In Bangladesh, a pilot trial of the MCH Handbook started at the Maternal and Child Health Training Institute in Dhaka. The intervention study at the hospital showed that 95.2% of mothers with the MCH Handbook received TT during pregnancy, while only 53.3% of mothers without the MCH Handbook received it.[8] The MCH Handbook can change the behavior of mothers during pregnancy and child-rearing.

Advantages and Disadvantages of the MCH Handbook

The advantages of the MCH Handbook are summarized on the basis of the practice in many countries. First, parents, health volunteers and health professional can easily understand the importance of continuity of maternal, neonatal and child healthcare. This is very important in countries and areas where many parents consider pregnant women don't need to access healthcare during pregnancy. Secondly, parents can keep their child's health records to hand through pregnancy, delivery and child development. Medical records in the MCH Handbook are useful as a referral document when a pregnant mother or a child is referred from a health center to a hospital. The MCH Handbook with visual aids is very useful as health education material. Donor-driven health programs produce many beautiful posters and pamphlets at health centers and hospitals. However, a mother may not be able to remember the advice on rich nourishing food when she cooks at home. Various activities in health sectors, such as nutrition, immunization, and infectious diseases control including HIV/AIDS, malaria and tuberculosis are integrated through MCH Handbook activities. Health professionals, village health volunteers and parents can easily understand the minimum standard of healthcare for mothers and children. Above all, parents and children prefer the MCH Handbook.

The MCH Handbook has also some disadvantages. The cost of printing is higher than one Child Growth Chart. However, when there are two or three kinds of charts or cards are used for mothers and children, the cost of printing the MCH Handbook is cheaper than that of all the charts and cards. When the MCH Handbook is mislaid, all the records are lost. But the rate of losing the MCH Handbook is lower than that of a single card. We must recognize that the MCH Handbook program is not a program for the distribution of health handbooks. We need training for health personnel including health volunteers to manage the program and ensure proper use. For the success of the program, the collaboration of health professionals at all health facilities is essential.

The MCH Handbook program is the most effective where there are many health professionals and healthcare workers work actively

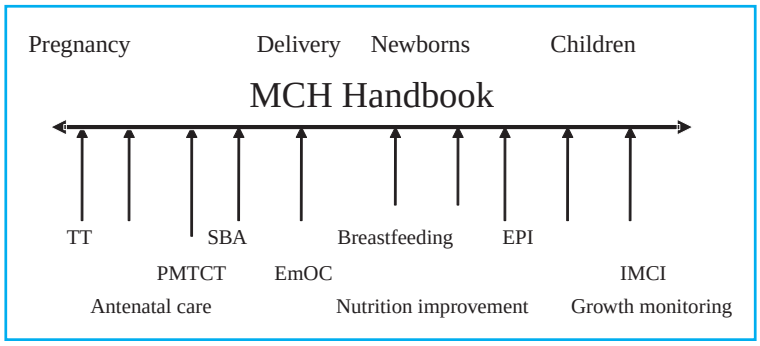

Fig. 4 The role of the MCH Handbook in a country model

and when a sufficient healthcare delivery system exists. The contents should be appropriate for the community. Illiterate parents were thought to be at a disadvantage, but the survey revealed that mothers with low education get more information on health through the MCH Handbook than mothers with high education in Indonesia. When there are many illiterate parents, many pictures and figures should be added.

Future Challenges to Ensure the Quality of Lives of Mothers and Children

In the 21st century, the MCH Handbook is reevaluated from the viewpoint of global health.

The MCH Handbook program can guarantee the continuum care of maternal, neonatal and child health across time and location (**Fig. 4**). Nowadays, in many countries, there are many programs to improve maternal, neonatal and child health (MNCH). During pregnancy, tetanus toxoid (TT) immunization, prevention of mother to child transmission of HIV (PMTCT), and antenatal care are conducted. Deliveries should be attended by skilled birth attendants (SBA) and emergency obstetric care (EmOC) is on hand. From birth, breastfeeding programs and an expanded program of immunization (EPI) are promoted. Integrated management of childhood illness (IMCI) and growth monitoring are very popular in many countries. These interventions are carried out at different times, at different places, by different healthcare workers, and run by many donor organizations. It seems very difficult to ensure a continuum care across time and location. However, an MCH Handbook program can guarantee continuum maternal, neonatal and child healthcare. The MCH Handbook tells us that child care should start during pregnancy and maternal care should continue after delivery.

The MCH Handbook program can promote a harmonized compilation of MDG 4, 5 and 6 to ensure child healthcare, maternal healthcare and infectious diseases control. Strengthening of health systems was emphasized through a comprehensive approach in G8 Toyako Summit in 2008.[9] The MCH Handbook covers maternal health (MDG 4), child health (MDG 5) and infectious diseases (MDG 6). It is a very useful tool for realizing a comprehensive approach.

The MCH Handbook can also endorse the human security approach to enable people to develop the capacity to cope with difficult conditions during pregnancy, delivery and child-rearing. Rosenfield and Maine asked "Where is M in MCH?" in 1985.[10] However, the MCH Handbook tells us that M (maternal) and C (child) is not clearly distinct. The definition of human security advocates protecting individuals' and communities' freedom from fear, freedom from want, and freedom to live in dignity. Human security also looks at the interface between empowerment and protection and creates an enabling environment for individuals and communities to have more control over their own health.[11]

The MCH Handbook is an entry point for promoting maternal and child health. In a multiplicity of cultures and customs, we will pursue maternal and child health to ensure the quality of lives of mothers, children and families in the world.

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