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MCH SERVICE SYSTEM IN KOREA AND PROBLEMS OF SERVICES IN COMMUNITY

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Contents

I. Introduction

The basic goals of MCH program is to maintain and improve the quality of human resources for the development of the nation with an effort to reduce the maternal and infant mortality rates to the lowest level and promote the health level of population through appropriate maternal and child health care mentally as well as physically.

The Korean MCH program acutally started in 1967 with about 150 health workers in rural area. They are mostly non-professional nurse aides and their main activity was to find pregnant mothers in their locality and distribute delivery kits to wives for use on their delivery at home. The delivery kit includes only clean sheet and scissors or razor blade.

The number of health workers was increased to about 800 in 1971, but the quality and content of the services did not improve. Only number of registered mothers received the vitamin pills and delivery kits and a number of infants received the vaccination through the channel of MCH program.

The family planning program had been heavily supported by the government until 1980s and has successfully reduced the population growth rate. But MCH programs had been poor and weak in terms of budget, resources and organization until early 1980s.

Comprehensive maternal and child health services in Korea have been implemented along with the construction of government MCH centers since 1983 and the revision of the MCH Law in 1986. The MCH center is operated in connection with health center in terms of budgets, personnel, supply of materials.

The MCH Law was enacted to legally support the services on MCH in 1973. However, the majority of the contents are for the family planning program rather than for MCH services. Parts of amendment for strengthening MCH components in 1986 are reporting the pregnancy, reporting system of maternal death, neonatal death and stillbirth to the health authorities and health examination for pregnant women and child.[1)]

The expansion of national health insurance to the entire population from July 1989 has particularly contributed to the MCH services. The utilization of hospitals and clinics increased sharply, while that of MCH centers decreased. Most of the curative care for mothers and children are covered by the insurance program, while most of health

care such as prenatal and postnatal care, health examination and immunization are not covered. In the public facilities those services are free of charge. The private sector has contributed more than the public sector, although those are based on fee-for-services.

The objectives of this paper are to update the MCH services in Korea and indentify the problems and make recommendations for the improvement of MCH status in the future.

II. Current Status of MCH

1. Maternal health status

Most of prenatal care and deliveries are made at medical institutions currently. According to the 1991 survey result[2], 94.4 percent of mothers who had last child since May 1987 had received one or more prenatal care services during their pregnancy period.

As can be seen from the following Table 1, most of them received prenatal care from hospitals of clinics(88.1 percent) while small number of them received from midwifery clinics(2.3 percent) and other public facilities(3.9 percent). Those who never received any prenatal care services were only 5.6 percent.

Compared with the rates of receiving prenatal care services of 90 percent in 1984[3], and 93 percent in 1987[4], recent data of 94.4 percent in 1991 is more improved for maternal health in Korea.

Among those mothers who had last child after May 1987, places of deliveries were 91 percent at hospitals and clinics while 5.1 percent at midwifery clinics and 2.0 percent at public facilities, according to the 1991 KIHASA survey[2] as shown in Table 2. As a result, most deliveries(98.1 percent) were made in the institutions.

As it was shown above, utilization rate of public facilities is very low for both prenatal care and delivery aid. The majority of MCH services have been provided by OB/GYN and paediatric specialists of private sector.

Table 1. Prenatal Care Experience of Women Who had Last Child after May 1987

(Unit : %)

Characteristics	Prental Care Experience					No Experienced	(N)
	Total	Hospitals	Clincs	Midwifery Clinics	Public Facilities*		
National	94.4	7.9	80.2	2.3	3.9	5.6	(2,150)
Urban	95.3	9.1	81.3	1.9	3.2	4.7	(1,750)
Rural	90.5	2.7	75.2	4.3	8.2	9.5	(400)

* Health centers, MCH centers, Health subcenters and Community health practitioner post.

Source : KIHASA, 1991 National Fertility and Family Health Survey, 1992.

Table 2. Place of Delivery for the Last Child since May 1987

(Unit : %)

Characteristics	Hospitals Clincs	Midwifery clinics	Public Facilities*	Home	(N)
National	91.0	5.1	2.0	1.9	(2,151)
Urban	93.5	4.4	1.2	0.9	(1,750)
Rural	79.8	8.2	5.4	6.7	(400)

* MCH centers, Hospitalized health centers.

Source : KIHASA, 1991 National Fertility and Family Health Survey, 1992.

The maternal mortality rate is 3.0 per 10,000 live births in 1991[5]. In the past, the major causes of death were infection, toxemia and bleeding. However, it is manifest that infection had been decreased and bleeding resulted from actopic pregnancy became a major cause recently according to the result of report of maternal death from medical facilities based on the revised MCH Law.[6]

In 1991, the contraceptive methods currently used by married women of childbearing age(15-44) were tuballigation(35.3%), vasectomy(12.0%), condom(10.2%), IUD (9.0%), rhythm method(7.0%), oral pill(3.0%) and other methods(2.9%).[2]

2. Infant and Child health status

The infant mortality rate over the past 30 years showed a dramatic fall thanks to the improved living conditions as well as the increased health facilities. It was reported that infant mortality rate was 12.5 per 1,000 live births as of 1988 and 12.8 as of 1990.[5] The major cause of infant death was congenital malformation.[7]

Low birthweight is a well known risk factor of infant mortality, but that of statistical data is not sufficient. According to a sample survey in 1985, the rate of birth weight less than 2,500 grams was 6.4 percent of all livebirths at one general hospital.[8]

Breast-fed infants up to three months after birth were shown as 71.8 percent of all, up to nine months after birth were shown as 48.5 percent, up to twelve months after birth were shown as 30.1 percent in 1991.[9] In 1984, beast-fed infants up to nine months after birth had shown as 74.5 percent, up to twelve months had shown 72.9 percent.[10] The rate of breast feeding is steadily decreased.

The immunization program has been implemented by the Law of the Communicable Diseases Control in 1954. The coverage of vaccinations under 30 months age in 1989 was 93.7 percent for BCG, 98.2 percent against DPT and polio, and 96.3 percent against measles, mumps, rubella.[11]

Poliomyelitis which used to be a major cause of the crippled has not broken out since 1984,[11] and diarrhea related death rate was 5.5 per 100,000 infants in 1990. In 1991, 285 cases of measles and 118 cases of pertussis were reported and in 1992, no case of diphtheria and tetanus has been reported while only 38 cases for measles and 41 cases of pertussis were repoted.[5] Recent major cause of death for children is not those communicable diseases but unexpected accidents[7] which should be reduced by special efforts of health education throughout the country.

III. Outline of the Government Program

1. Population

Population of MCH program in 1992 is 1,384,000 person, which is equvalent to 8.4 percent of target population, composed of 1,300,000 preschool children and 84,000 pregnant women.[13]

2. Major services

The importance of prenatal and postnatal care, infant and child care and health education is emphasized in the government program.

The services provided by the public health sector are as follows:

A. Promotive health care
- Home-visit guidance by health workers and pubic health nurses
- Health guidance and counseling
- Family planning counseling

B. Preventive health care[14]
- Mothers'class for pregnant and parturient women
- Prenatal and postnatal care
- Assistance of delivery at MCH centers
- Vaccination for infant and young children
- Health examination for pregnant women and young children(6 or 18-month-old)
- Preventive program of vertical Hepatitis B infection (screening program, vaccination program)
- Mass screening for inbom errors of metabolism (five types) and hypothyroidism in neonatal pe-

riod.

- −Referral of risky mothers and children to hospital and clinic

C. Curative health care

- −Supply of special milk to the infant of inbom errors of metabolism

D. Other assistance services

- −Issuance of maternal and child health handbook to the women who registered to the health center (subcenter) or MCH center.
- −Supply of emergency treatment kit for the registered.
- −Day care services through 686 day care centers operated by the government as of March 1992.

IV. Services Provided by Each Step of the Health Care Delivery System

1. Medical care facilities related to MCH.

Table 3 illustrates that primary health care is partly covered by the public medical facilities while the most secondary and tertiary care is almost entirely covered by the private medical care facilities. In another words, private medical facilities in Korea play very important role and tertiary care institutions are not classified in accordance with the maintenance of MCH sub-specialist such as neonatologist and perinatologist and equipments of OICU(Obstetric Intensive Care Unit) or NICU(Neonatal Intensive Care Unit). The health authorities emphasize the importance of quality improvement, research on MCH promotion and health education in the private sector.

2. services of institutions.

A. Primary care institutions(private clinics)

a. Prenatal and postnatal care

- −Early diagnosis for pregnancy
- −Health examination(history taking, weight gain and B. P. check, edema, change of HOF, fetus condition etc.)
- −Tests(VDRL, HBsAg.Ab, anemia, urine, ultrasono)

Table 3. Number of MCH facilities by Level of Care Designated by Health Care Delivery System

	Total	Urban(%)	Rural(%)
Priamry care I.			
OB/GYN C.	1,620	1,554(95.9)	88(4.1)
Pediatric C.	1,155	1,100(95.2)	55(4.8)
Miwifery C.	267	234(87.6)	33(12.4)
Health Center	266(77*/15**)	130	136
H. subcenter	1,329		1,329
Secondary Care I.	527	438(83.1)	89(16.9)
Hospital	326	260(79.8)	66(20.2)
General hosp.	201	178(88.6)	23(11.4)
Tertiary Care I.			
General hospital	30	30(100.0)	−

* number of MCH centers

* * number of hopitalized health centers

Source : Park, Jun Sun & Hwang, Na Mi, Linkage system for comphensive MCH services in community, KIHASA, 1992

b. Infant and child care
- Immunization
c. Delivery aids
d. Referral for high risky group
e. Counseling for contraception and contraceptive services

B. Secondary and Tertiary care institutions(hospital, general hospital)[15]
a. Same as services of primary care institutions
b. Tests(AFP, Toxoplasmosis, Amniocentesis etc.)
c. Perinatal care
- Medical care and surgical operation for pregnant women and fetus with specific complications.
- Intrapartum electronic fetal cardiotachograph
- Care for premature and low birthweight with a operation of neonatal intensive care unit.
- Lab. exam. for inborn errors of metabolism(five types) and hypothyroidism.

V. Problems of MCH Services

1. Shrinking of the services by public sector.

A. Not enough health education materials and poor audio-visual equipments for the health worker's activities in spite of focus on health education in MCH program.

B. Lack of screening technique for pregnant women and infants in medical examination. The low rate of professional manpower recruitment in public MCH facilities (OB/GYN Dr. was employed in 11.7% of all health centers in 1992[6]) result in the low utilization of the public sectors.

C. Focus on services for the healthy client only in child health care and exclusion of low birthweight and mentally and physically disabled children.

D. Negligence of referring risky case to the private care facilities.

2. Low utilization of MCH handbook.

MCH handbook is issued to pregnant women at health care facilities, for provision of health information, recording of health check results and referring of it to school health. However, it is not well utilized, only a few medical personnel record the results of health examination in MCH handbook.

3. Increase of the rate of caesarian section.

It was reported that the proportion of unnecessary caesarian section was 22.4 percent of 165 cases of caesarian section at nine hospitals in 1991,[17] in spite of the much lower services charge of normal vaginal delivery than caesarian section covered by the health insurance.

4. Less popularity of breast feeding.

The rate of breast feeding is remarkably low, which is not good for health of both children and mothers. One of the major obstacles of the breast feeding is a caesarian section.

5. Poor services for low birthweight and premature at hospitals.

Many hospitals have provided low birthweight infant with poor services, which are caused by a shortage of neonatologist, perinatologist, and poor equipments at neonatal intensive care unit. Because the intensive care such as fluid and electrolyte control or ventilation support does not pay substantially in case of input of adequite medical personnel and medical equipments essentially required for the quality of care in NICU.

The existing personnel expenses and the fee of utilization of equipments are not profitable under the system of current health insurance.

6. Difficulty in evaluation of the MCH status due to insufficient information related to MCH Statistics

Most of the MCH services have been provided by the private sector. Medical facilities are forced to give reports to the health authorities for maternal death, neonatal death and stillbirth occurred.[1] However, production of MCH indices and statistical data is not satisfactory due to the under-

reports by those facilities.

7. Poor system of obstetrical; emergency medical care between public and private, and also between primary/secondary and tertiary care facilities.

Even though 98.9 percent of all deliveries was made in the medical facilities, still high maternal mortality rate of 3.0 and infant mortality rate of 12.8[5] are maintained. One of the major reasons for this is a lack of perinatal emergency care system in the community. These activities have been operated within the health care delivery system since 1989, by which medical facilities were classified into level of care on the basis of number of bed.

VI. Effective Measures for MCH Services

In order to effectuate MCH services, the government should continue to place efforts on the MCH program promoting participation of private sector.

1. Qualitative improvement of public services

A. to strengthen the medical examination programs for pregnant women and children.
   - to make a provision for the recruitment of part-time doctor for the government MCH activities.

B. to conduct community diagnosis to meet with the demands of each community.

C. to develop a follow-up care for low birthweight and handicapped children through the home-visit.

D. to develop the new MCH program.
   - to immunize against the rubella for the youth so as to cope with cogenital anomalies.
   - to conduct mass screening for neuroblastoma.

E. to establish a medical aid program
   - to aid for the low birthweight and premature.
   - to extend screening of inborn errors of metabolism and hypothyroidism to the entire neonate.

F. to provide the health education materials regarding maternal and child health, reproductive health problems
   - to make propaganda for the utilization of MCH handbook
   - to make propaganda for the disadvantages of caesarian section
   - to emphasize that induced abortion is the wrong choice as means of family planning since it is very harmful for health.
   - to make propaganda for the advantages of breast feeding in terms of both infant and maternal health and contraceptive effects.

2. Establishment of a health information system

A. to educate the medical personnel to have legal report for death, stillbirth and pregnancy with responsibilities.

B. to force the entire medical facilities to keep regulations for regulations for reporting.

C. to extend report of death from newborn to infant and exclude a report of stillbirth.

D. to give a report about low birthweight infants.[18),19)]

E. to prepare a legal foundation for connection with birth registration.[19)]

3. Application of health insurance costs to services occurred in the NICU for quality improvement.

The health authorities should play a pivotal role in the perinatal health. If financial obstacle was removed by the application of the health insurance, the tertiary designated MCH hospital would input adequate medical personnel and essentially required equipments which are exclueded in health insurance costs.

4. Enforcement of connection with the school health for child health.

A. to prepare the enactment of the Law on the basis of a continuous health care for school children.

B. to connect with school health by means of MCH han-

dbook.

5. Settlement of regionalization and emergency medical system for perinatal period(Figure 1) [20), 21)]

A. to develop strategies for linkage between public and private sector especially for the underserved areas.

B. to develop the training program of high level professional staff such as perinatologist and neonatologist.

C. to make a standard care plan for NICU and OICU and assess the quality of neonatal intensive care unit.

D. to make a reference to standard card plan and to re-designate tertiary care facilities of MCH which provide highly specialized medical treatment services.

F. to establish a set of perinatal facilities per 2,000 deliveries within a treatment zone.

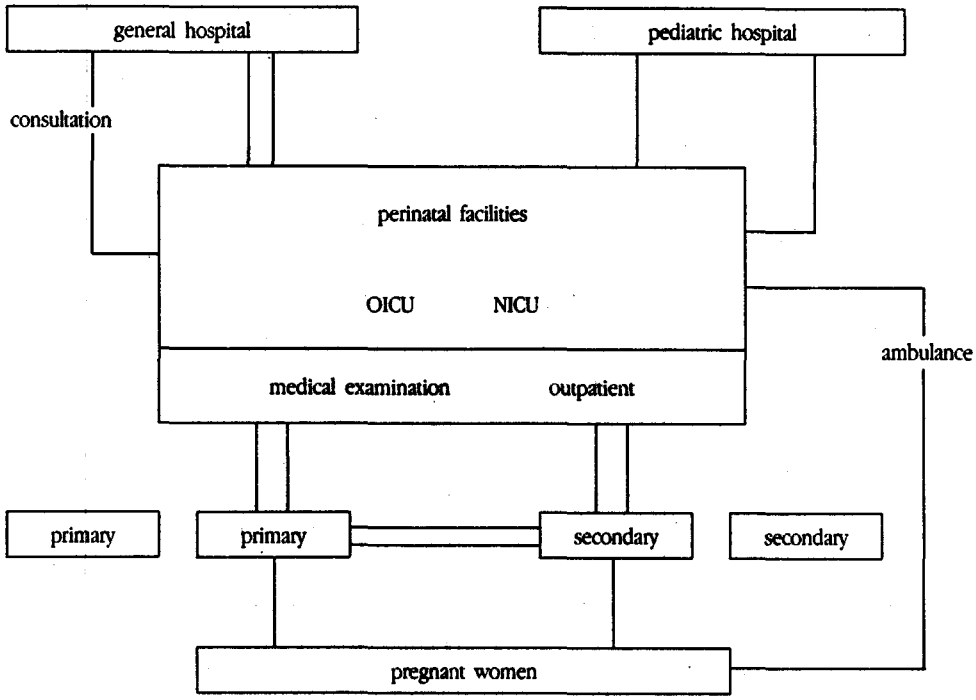

Fig. 1. Regionalization of MCH services

References

1. Ministry of Health and Social Affairs : The Maternal and Child Health Law, 1990.
2. Kong, Sae Kwon et al., 1991 National Fertility and Family Health Survey, 1992.
3. Korea Institute for Pupulation and Health : 1985 National Fertility and Family Health Survey, 1985.
4. Moon, Hyun Sang et al., 1988 National Fertility and Family Health Survey, 1989.
5. Ministry of Health and Social Affairs : Yearbook of health & social statistics, 1992.

6. Ministry of Health and Social Affairs : Analysis of a report for maternal death, neonatal death and stillbirth, 1991.
7. National Statistical Office, Annual Report on the Cause of Death Statistics, 1992.
8. Kim, Jung Tae & Hwang, Na Mi, A study on perinatal care of hospital and MCH centers, Korea Institute for Population and Health, 1986.
9. UNICEF : Annual Report On Country Situation, 1992.
10. Korea Institute for Population and Health : The Study on Factor of Infants Breast-feeding, 1984.
11. Kim, Hye Ryun & Hwang, Na Mi, Immunization Coverage Survey in 1989, Korea Institute for Health and Social Affairs, 1991.
12. Ministry of Health and Social Affairs : Yearbook of health & Social Statistics, 1989. 1990. 1991.
13. Ministry of Health and Social Affairs : 1993 Major programmes for Health and Social Welfare, 1993.
14. Ministry of Health and Social Affairs : 1993 National Family Health Program, 1993.
15. Ministry of Health and Social Affairs : Maternal and Child Health, 1990.
16. Park, Jung Sun & Hwang, Na Mi, Linkage system for Comprehensive MCH services in Community, Korea Institute for Health and Social Affairs, 1992.
17. Sin, Young soo et al., Quality Improvement for Appropriate Medical Assurance, Quality Improvement Seminar, Korea Institute of Health Services Management, 1992
18. Mothers' and Childrens' Health and Welfare Association : Maternal and Child Health in Japan, 1992.
19. Missouri Dep. of Health Div. of health Resources Bureau of Vital Record : Hospitals' & Physicians' Handbook on Birth Registration & Fetal Death Reporting, 1989
20. 松本 清一, 母子保健概論, 文光堂, 1992.
21. Yan, Ren-Ying et al., The risk Approach in Perinatal Health Shunyi County, People's Republic of China, Health & Human services, 1989.

〈국문요약〉

한국의 모자보건사업체계 및 지역사회에서의 서비스 문제

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최근 경제수준 향상과 소자녀 가치관의 확립, 그리고 전국민 의료보험 실시 등으로 인하여 모자보건 대상자의 대부분은 민간 의료시설의 전문인력으로부터 서비스를 제공받게 되었고, 모자보건 수준도 급격히 향상, 1992년 시설분만율의 경우, 99%에 도달하였다.

이렇듯 의료시설 이용의 증가와 의료기술의 발전에도 불구하고, 영아사망율 및 모성사망율이 최근 몇년동안 같은 수준에 머무르고 있음은, 보다 질적인 관리측면으로 사업의 방향이 전환되어야 함을 의미하는데 이는 곧 공공성을 띠고 있는 모자보건사업을 국가가 관리하여야 할 필요성을 더욱 크게 한다.

공공부문에서는 취약대상을 위하여 민간 전문인력과의 유기적인 연계체계를 마련하여 계속적인 관리를 제공할 수 있도록 하고, 보건교육 강화를 위한 관련 홍보물(모자보건수첩 활용, 모유수유 권장, 제왕절개수술 지양 등)을 제작하며 신경아세포종 검사 등과 같은 새로운 예방사업 개발에 중점을 두어야 할 것이다. 또한 영유아관리는 저체중아 및 장애아에 대한 추구관리서비스까지 확대되어야 할 것이다.

현 우리나라 주산기구급이송체계는 응급의료체계내에서 이루어지고 있다고 볼 수 있는데 주산기관리를 위한 의료여건이 성숙되어 있지 못하고 있는데다(이 시기의 집중관리를 통하여 사망 및 장애아 예방이 가능) 관련 제도마저 취약하여 민간의료부문에서는 영아사망 및 모성사망을 낮추기 위해서는 이 부문에 대한 노력이 집중되어야 할 것이다.

첫째, 주산기학, 신생아학 전문인력의 훈련제도 확립과 주산기 관리시설의 지역적 적정분배(분만 2,000건에 1개 시설 마련), 둘째, 집중적인 인력과 고가장비가 투입되는 주산기 의료활동 강화를 위한 관련 의료제도의 수정 및 보완, 세째, 질적관리가 매우 중시되는 고위험 신생아의 집중관리를 위한 '표준 의료관리지침서' 마련, 네째, 동 시설 및 관리에 준하여 주산기 의료시설에 대한 감독 및 감시기능 강화를 위한 제도적 장치가 마련되어야 할 것이다.