

ITEM	DESCRIPTION	TOTAL NO SETS	DISTRIBUTION	NUMBER
11.	SPEAKER HORN SWT - 30 AN	20	KHONKAEN MCH. CENTER	2
			CHIENGMAI MCH. CENTER	2
			NAKORNSAWAN MCH. CENTER	2
			RACHABURI MCH. CENTER	2
			YALA MCH. CENTER	2
			BANGKOK MCH. CENTER	2
			LAMPANG CENTER	2
			AMPHOR POL SUB MCH. CENTER	2
			UTHAITANI MCH. CENTER	2
			CHONBURI PCMO	2
			PHRANAKORNSIAYUTTHAYA PCMO	2
12.	DRIVER UNIT 35 W SWT - D 35 W	20	KHONKAEN MCH. CENTER	2
			CHIENGMAI MCH. CENTER	2
			NAKORNSAWAN MCH. CENTER	2
			RACHABURI MCH. CENTER	2
			YALY MCH. CENTER	2
			BANGKOK MCH. CENTER	2
			LAMPANG CENTER	2
			AMPHOR POL SUB MCH. CENTER	2
			UTHAITANI MCH. CENTER	2
			CHONBURI PCMO	2
			PHRANAKORNSIAYUTTHAYA PCMO	2
13.	SONOLINE SPEAKER 30 W. WS - 929 N	20	FAMILY HEALTH DIVISION	4
			BANGKOK MCH. CENTER	2
			LAMPANG CENTER	2
			KHONKAEN MIDWIFERY SCHOOL	2
			CHIENGMAI MIDWIFERY SCHOOL	2
			NAKORNSAWAN MIDWIFERY SCHOOL	2
			RACHABURI MIDWIFERY SCHOOL	2
			YALA MIDWIFERY SCHOOL	2
VAJIRA MIDWIFERY SCHOOL	2			
14.	WIRELESS MICROPHONE MC WX -461A/WX480 A	2	FAMILY HEALTH DIVISION	2
15.	WIRELESS PORTABLE RD 533	40	FAMILY HEALTH DIVISION	40
16.	CHARGER FOR RD -533 NI, RD - 9557	2	FAMILY HEALTH DIVISION	2

III. MOTIVATIONAL FILM RECEIVED FROM JICA 1987/88  
AND DISTRIBUTION

ITEM	EQUIPMENT	TOTAL NO.	DISTRIBUTION	NO.	REMARK
III.	<u>MOTIVATION EDUCATION</u> <u>FILM GOOD KASEM AND</u> <u>CLEVER MANEE</u> 10 copies in English 100 copies in Thai	10 100	FHD		FHD received 100 copies of Good Kasem and Clever Manee Film in Thai and 10 copies in English in May 1987. The 100 copies in Thai have been distributed directly each to 55 Provincial chief medical offics, 13 Provincial Hospitals and 32 Community Hospitals.
		1	PCMO, CHANTHABURI		
		2	PCMO, CHACHOENGSAO		
		3	PCMO, CHAI NAT		
		4	PCMO, CHON BURI		
		5	PCMO, NAKHON NAYOR		
		6	PCMO, NAKHON PATHOM		
		7	PCMO, PATHUM THANI		
		8	PCMO, PRACHIN BURI		
		9	PCMO, PRACHUAP KHIRI KHAN		
		10	PCMO, PHRA NAKHON SI, AYUTTHAYA		
		11	PCMO, RATCHABURIAO		
		12	PCMO, SAMUT SONGKHRAM		
		13	PCMO, SARABURI		
		14	PCMO, ANGTHONG		
		15	PCMO, CHAIANG RAI		
		16	PCMO, CHIANG MAI		
		17	PCMO, NAKHON SAWAN		
		18	PCMO, NAN		
		19	PCMO, PHAYAO		
		20	PCMO, PHETCHABON		
		21	PCMO, PHRAE		
		22	PCMO, PHITSANULOK		
		23	PCMO, PHICHIT		
		24	PCMO, MAE HONG SON		
		25	PCMO, LAMPHUN		
		26	PCMO, LAMPANG		
		27	PCMO, SUKHOHAI		
		28	PCMO, KALASIN		
		29	PCMO, KHON KAEN		
		30	PCMO, CHAIYA PHUM		
		31	PCMO, RATCHASIMA		
		32	PCMO, NAKHON PHANOM		
		33	PCMO, BURIRAM		
		34	PCMO, YASOTHON		
		35	PCMO, ROI ET		
		36	PCMO, LOEI		
		37	PCMO, SISAKEWAN		
		38	PCMO, SAKONNAKHON		
		39	PCMO, SURIN		
		40	PCMO, NONGKHAI		
		41	PCMO, UDONTHANI		
		42	PCMO, UDONRATCHATHANI		

MOTIVATIONAL FILM RECEIVED FROM JICA 1987/88

ITEM	EQUIPMENT	TOTAL NO.	DISTRIBUTION	NO.	REMARK
		43	PCMO, MUKDAHAN		
		44	PCMO, CHUMPHON		
		45	PCMO, TRANG		
		46	PCMO, NAKHONSITHANMARAT		
		47	PCMO, NARATHIWAT		
		48	PCMO, PATTANI		
		49	PCMO, PHATTHALUNG		
		50	PCMO, PHUKET		
		51	PCMO, YALA		
		52	PCMO, RANONG		
		53	PCMO, SONGKHLA		
		54	PCMO, SATUN		
		55	PCMO, SURAT THANI		
		56	Prov. Hosp. KALASIN		
		57	Comm. Hosp. KUCHINARAI, KALASIN		
		58	Comm. Hosp. YANG TALAT, KALASIN		
		59	Comm. Hosp. SOMDET, KALASIN		
		60	Regional Hosp. KHON KAEN		
		61	Comm. Hosp. KRANUAN, KHON KAEN		
		62	Comm. Hosp. BAN PHAI, KHON KAEN		
		63	Comm. Hosp. CHUM PHAE, KHON KAEN		
		64	Comm. Hosp. PHON, KHON KAEN		
		65	Comm. Hosp. PHU KHIEO, CHAIYAPHUM		
		66	Comm. Hosp. BANNET NARONG, CHAIYAPHUM		
		67	Comm. Hosp. KASET SOMBUN, CHAIYAPHUM		
		68	Prov. Hosp. NAKHON PHANOM		
		69	Comm. Hosp. THAT PHANOM, NAKHON PHANOM		
		70	Comm. Hosp. NANG RONG, BURI RAM		
		71	Comm. Hosp. LAM PLAI MAT, BURI RAM		
		72	Prov. Hosp. MAHA SARAKHAM		
		73	Comm. Hosp. KOSUM PHISAI, MAHA SARAKHAM		
		74	Prov. Hosp. YASOTHON		
		75	Comm. Hosp. LOENG NOK, YASOTHON		

MOTIVATIONAL FILM RECEIVED FROM JICA 1987/88

ITEM	EQUIPMENT	TOTAL NO.	DISTRIBUTION	NO.	REMARK
		76	Prov.Hosp.ROI ET		
		77	Comm.Hosp.SUWANNAPHUM, ROI ET		
		78	Prov.Hosp.SUWANNAPHUM, LOEI		
		79	Comm.Hosp.DAN SAI, LOEI		
		80	Comm.Hosp.CHIANG KHAN, LOEI		
		81	Prov.Hosp.SISAKET		
		82	Comm.Hosp.KANTHARALAK, SISAKET		
		83	Comm.Hosp.RASISALAI, SISAKET		
		84	Prov.Hosp.NANG RONG, SAKONNAKHON		
		85	Comm.Hosp.SAWANG DAEN DIN, SAKONNAKHON		
		86	Comm.Hosp.PHANNA NIKHOM, SAKONNAKHON		
		87	Prov.Hosp.SURIN		
		88	Comm.Hosp.RATTANABURI, SURIN		
		89	Comm.Hosp.SIKHORAPHUM, SURIN		
		90	Prov.Hosp.NONGKHAI		
		91	Comm.Hosp.BUNGKAN, NONGKHAI		
		92	Comm.Hosp.THABO, NONGKHAI		
		93	Comm.Hosp.BAN DUNG, UDONTHANI		
		94	Comm.Hosp.KUMPHAWAPI, UDONTHANI		
		95	Comm.Hosp.NONG BUA LAMPHU, UDONTHANI		
		96	Prov.Hosp.UBONRATCHATHANI		
		97	Comm.Hosp.DET UDON, UBONRATCHATHANI		
		98	Comm.Hosp.ANNAT CHAROEN, UBONRATCHATHANI		
		99	Prov.Hosp.MUKDAHAN		
		100	Comm.Hosp.KHAM-CHA-GCE, MUKDAHAN		

IV. COMMODITIES PROVIDED BY JICA 1986/1987  
AND DISTRIBUTION

DESCRIPTION	TOTAL	DISTRIBUTION	NO
1. <u>MORILE MOTIVATION VAN</u> NISSAN URVAN	10	PCMO PHANGNGA	1
		PCMO NAKHON SRITHAMMARAT	1
		PCMO ROI EI	1
		MCH CENTER NAKHON SAWAN	1
		PCMO SAKHON NAKHON	1
		FP CENTER OF NORTHERN REGION AT LAMPANG	1
		PCMO YASOTHON	1
		FHD	3
2. <u>MOTORCYCLES</u> "KAWASAKI" <u>Remark</u> : All 40 units of Motorcycles will be distributed to health center at district level  <u>Remark</u> : All 60 units of Motorcycles will be distributed to health center at district level (one unit for each health center) * = PROVINCE ** = DISTRICT	100	I. <u>SUPPORTING THE EXPANSION OF MCH SERVICES (40)</u>	
		MCH CENTER KHONKAEN	10
		MCH CENTER CHIANGMAI	10
		MCH CENTER NAKORN SAWAN	10
		MCH CENTER RACHABURI	10
		II. <u>SUPPORTING THE EXPANSION OF FP SERVICES (60)</u>	
		1. <u>PHETCHABURI*(2)</u>	
		MUANG **	2
		2. <u>PETCHABUN (10)</u>	
		MUANG	3
		LOM SAK	2
		LOM KAO	3
		NAM NOUN	2
		3. <u>PHICHIT (2)</u>	
		SAM NGAM	2
		4. <u>NAKHON RACHASIMA (2)</u>	
		NON THAI	2
		5. <u>URON RATCHATHANI (2)</u>	
		WARIN CHAMRAP	2
		6. <u>CHAIYAPHUM (2)</u>	
		BAMNET NARONG	1
		PHU KHIEO	1
		7. <u>SAKON NAKHON (6)</u>	
		MUANG	2
		BAN MUANG	1
		PHANNA NIKHOM	1
		KHAM TA KLA	1
SONG DAO	1		
8. <u>SI SA KET (2)</u>			
HUAI THAP THAN	1		
KHUKHAN	1		

DESCRIPTION	TOTAL	DISTRIBUTION	NO
2. MOTORCYCLE CONTINUE . . . . .		9. <u>NAKHON PANOM</u> (6)	
		BAN PHAENG	2
		NAWA	2
		MUANG	1
		RENH NAKHON	1
		10. <u>SURIN</u> (4)	
		BUA CHAD	2
		KAP CHOENO	1
		SAMRONG THAP	1
		11. <u>MUKDAHAN</u> (6)	
		KO LUANG	2
		KHAMCHAAI	2
		MUANG	2
		12. <u>NONG KHAI</u> (4)	
		SEKA	2
		SO PHISAI	2
		13. <u>ROI ET</u> (8)	
		AT SAMAT	3
		PHO CHAI	3
		PHANOM PHRAI	2
14. <u>BURI RAM</u> (2)			
MUANG	1		
NANG RONG	1		
15. <u>UDON THANI</u> (2)			
BAN PHU	2		

V.OFFICE EQUIPMENT PROVIDED BY JICA 1986/1987

DESCRIPTION	TOTAL	DISTRIBUTION	No.
<u>V.OFFICE EQUIPMENT</u>	1		
1. TYPEWRITER OLYMPIA MODEL MODEL 200 BT	4	MCH-CENTER BANGKEN BANGKOK MCH-CENTER RACHABURI F.H.D.(IE & C SECTION)	1 1 2
2. NIMEOGRAPH MACHINE GESTETNER MODEL 4130	5	MIDWIFERY SCHOOL RACHABURI M.C.H-CENTER KHON KAEN M.C.H-CENTER YALA F.H.D.(LOGISTIC UNIT) F.H.D.(IE & C SECTION)	1 1 1 1 1
3. COPYING MACHINE MINOLTA EP450Z	3	MIDWIFERY SCHOOL LUMPANG F.H.D.(MEDICAL STAFF) F.H.D.(IE & C SECTION)	1 1 1
4. ELECTRONIC SCANNER GESTETNER/MODEL 4194	5	MIDWIFERY SCHOOL RACHABURI M.C.H-CENTER KHON KAEN M.C.H-CENTER YALA F.H.D.(TRAINING SECTION) F.H.D.(TE & C SECTION)	1 1 1 1 1
5. DOT-IMPACT PRINTER GESTETNER MODEL VB 100	1	F.H.D.(IE & C SECTION)	1
6. PERSONAL COMPUTER CANON A-2001	1	F.H.D.(IE & C SECTION)	1
7. CALCULATOR CANNON CANOLA P1251 D II	4	F.H.D.(IE & C SECTION) F.H.D.(ADMINISTRATION SECTION)	2 2

COMMODITIES RECEIVED FROM JICA

JFY 1987/88

ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
I.1.1	INFANT VENTILATOR	2	KHON KAEN HPC. CHIANGMAI HPC.	1 1
I.1.2	CAPACITOR-DISCHARGE X-RAY APPARATUS MOBILE UNIT	2	KHON KAEN HPC. RATCHABURI HPC.	1 1
I.1.3	BILIRUBINOMETER	2	KHON KAEN HPC. UTHAITHANI HP.SUB-CENTER	1 1
I.1.4	INFANT CPAP SYSTEM	1	KHON KAEN HPC.	1
I.1.5	INFANT WARMER	9	NAKHON SAWAN HPC. BKK MCH TRAINING CENTER KHON KAEN HPC. RATCHABURI HPC. CHIANGMAI HPC.	3 2 2 1 1
I.1.6	OXYGEN MONITOR WITH HI-LO ALARM	3	KHON KAEN HPC. CHIANGMAI HPC. YALA HPC.	1 1 1
I.1.7	FETAL MONITOR	4	KHON KAEN HPC. RATCHABURI HPC. YALA HPC. BKK.MCH.TRAINING CENTER	1 1 1 1
I.1.8	PORTABLE DEFIBRILLATOR	3	KHON KAEN HPC. YALA HPC. BKK.MCH.TRAINING CENTER	1 1 1
I.1.9	OBSTETRIC DELIVERY & OPERATING TABLE	1	YALA HPC.	1
I.1.10	GYNCOLOGICAL & EXAMINING AND DELIVERY TABLE	5	KHON KAEN HPC. YALA HPC.	4 1
I.1.11	STRETCHER DELIVERY TABLE	3	KHON KAEN HPC.	3
I.1.12	INFANT INCUBATOR	6	KHON KAEN HPC. CHIANGMAI HPC. YALA HPC. RATCHABURI HPC.	1 2 2 1
I.1.13	ANESTHESIA APPARATUS	4	CHIANGMAI HPC. YALA HPC. UTHAITHANI HP.SUB CENTER POL HP.SUB CENTER	1 1 1 1



ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
I-1.14	ELECTROLYTE ANALYSER	2	RATCHABURI HPC. CHIANGMAI HPC.	1 1
I-1.15	ULTRASONIC NEBULIZER	3	RATCHABURI HPC. CHIANGMAI HPC. POL HP.SUB CENTER	1 1 1
I-1.16	OXYGEN TENT FOR ADULT	1	CHIANGMAI HPC.	1
I-1.17	OXYGEN TENT FOR INFANT	2	CHIANGMAI HPC. YALA HPC.	1 1
I-1.18	OXYGEN HEAD BOX FOR INFANT	2	CHIANGMAI HPC. YALA HPC.	1 1
I-1.19	INFUSION PUMP	4	RATCHABURI HPC. CHIANGMAI HPC.	3 1
I-1.20	ELECTRIC SUCTION UNIT	1	CHIANGMAI HPC.	1
I-1.21	PHOTOTHERAPY UNIT	2	CHIANGMAI HPC. POL HP.SUB CENTER	1 1
I-1.22	DOPPLER FETAL HEART DETECTOR	1	CHIANGMAI HPC.	1

II. MOBILE MOTIVATION UNIT  
AND DISTRIBUTION PLAN

ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
II	MOBILE MOTIVATION UNIT	10	PCMO KHON KAEN	1
II.1	NISSAN E 20		PCMO PHATTHALUNG	1
	MICROBUS 2000 CC. OR		PCMO CHON BURI	1
	EQUIVALENT, 9 SEATS.		PCMO SATUN	1
			PCMO SURAT THANI	1
			PCMO SAMUT SONGKHRAM	1
			MCH RATCHABURI	1
			MCH KHON KAEN	1
			FHD	2

III. MOTIVATION/EDUCATION FILM PROVIDED BY JICA 1987/88 AND DISTRIBUTION

ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
1	MOTIVATION FILM	100	KRABI Provincial HOSP.	1
2	GOOD KASEM		Khlung Thom Amphoe HOSP.	1
3	COEVER MANEE		PCMO, CHUMPHON	1
4			CHUMPHON Provincial HOSP.	1
5			Lang Suan Amphoe HOSP.	1
6			Sawi Amphoe HOSP.	1
7			TRANG HOSP.	1
8			Huai Yot Amphoe HOSP.	1
9			Palian Amphoe HOSP.	1
10			NAKHON SI THANMARAT HOSP.	1
11			Chawang Amphoe HOSP.	1
12			Thung Song Amphoe HOSP.	1
13			Sichon Amphoe HOSP.	1
14			Tha Sala Amphoe HOSP.	1
15			Lan Saka Amphoe HOSP.	1
16			Khanom Amphoe HOSP.	1
17			Chian Yai Amphoe HOSP.	1
18			Ron Phibun Amphoe HOSP.	1
19			Cha-uat Amphoe HOSP.	1
20			Thung Yai Amphoe HOSP.	1
21			Phrommakhiri Amphoe HOSP.	1
22			Phipun Amphoe HOSP.	1
23			Nabon Amphoe HOSP.	1
24			NARATHIWAT Provincial HOSP.	1
25			Sungai Kolol Amphoe HOSP.	1
26			Rangae Amphoe HOSP.	1
27			Waeng Amphoe HOSP.	1
28			Tak Bai Amphoe HOSP.	1
29			Ruso Amphoe HOSP.	1
30			Songai Padi HOSP.	1
31			Sukirin Amphoe HOSP.	1
32			PATINI Provincial HOSP.	1
33			Khok Pho Amphoe HOSP.	1
34			Yaring Amphoe HOSP.	1
35			Panare Amphoe HOSP.	1
36			Mayo Amphoe HOSP.	1
37			Mai Kaen Amphoe HOSP.	1
38			Yarang Amphoe HOSP.	1
39			Thung Yang Daeng Amphoe HOSP.	1
40			PHANGNGA Provincial HOSP.	1
41			Takua Pa Amphoe HOSP.	1
42			Bangsai HOSP.	1
43			Thai Muang Amphoe HOSP.	1
44			Vajira Phuket Provincial HOSP.	1
45			Thalang Amphoe HOSP.	1
46			Krathu HOSP.	1
47			PHATTHALUNG Provincial HOSP.	1
48			Khuan Khanun Amphoe HOSP.	1

ITEM	DESCRIPTION	TOTAL NO	DISTRIBUTION	NO.
49			Khao Chaison Amphoe HOSP.	1
50			Yala MPC HOSP.	1
51			Betong Amphoe HOSP.	1
52			Yaha Amphoe HOSP.	1
53			Bannang Sata Amphoe HOSP.	1
54			Raman Amphoe HOSP.	1
55			RANONG Provincial HOSP.	1
56			Kra Buri Amphoe HOSP.	1
57			Kapoe Amphoe HOSP.	1
58			Hat Yai Amphoe HOSP.	1
59			SONGKHLA Provincial HOSP.	1
60			Rattaphum Amphoe HOSP.	1
61			Na Thawi Amphoe HOSP.	1
62			Sadau Amphoe HOSP.	1
63			Saba Yoi Amphoe HOSP.	1
64			Sathing Phra Amphoe HOSP.	1
65			Chana Amphoe HOSP.	1
66			Krasaesin HOSP.	1
67			SATUN Provincial HOSP.	1
68			Langu Amphoe HOSP.	1
69			Khuan Kalong Amphoe HOSP.	1
70			Thung Wa Amphoe HOSP.	1
71			SURAT THANI Provincial HOSP.	1
72			Ko Samui Amphoe HOSP.	1
73			Wiang Sa Amphoe HOSP.	1
74			Chaiya Amphoe HOSP.	1
75			Ko Phangan Amphoe HOSP.	1
76			Ban Na San Amphoe HOSP.	1
77			Phunphin Amphoe HOSP.	1
78			Phrasang Amphoe HOSP.	1
79			Kanchanadit Amphoe HOSP.	1
80			Khiri Ratthanikhom Amphoe HOSP.	1
81			Tha Chana Amphoe HOSP.	1
82			Don Sak Amphoe HOSP.	1
83			Nong Chick Amphoe HOSP.	1
84			FHD, Training Section	2

IV. MOTORCYCLES PROVIDED BY JICA 1987/1988  
AND DISTRIBUTION PLAN

ITEM:	DESCRIPTION	TOTAL	DISTRIBUTION	NO.
	<u>MOTORCYCLES</u>	100	MCH CENTER KHONKAEN	3
	"Honda" C70 KG		MCH CENTER CHIANGMAI	3
	The 100 motorcycles will		MCH CENTER NAKORNSAWAN	3
	be support the health		MCH CENTER RACHABURI	3
	centers at Tambon level in		MCH CENTER YALA	3
	58 provinces.		PCMO NONGKHAI	8
			PCMO KHONKAEN	1
			PCMO MAHASARAKHAM	1
			PCMO BURIRAM	2
			PCMO CHACHOENGSAO	2
			PCMO CHAIYAPHUM	2
			PCMO KAMPHAENG PHET	2
			PCMO KALASIN	2
			PCMO UBONRATCHATHANI	2
			PCMO UDONTHANI	2
			PCMO SISAKET	2
			PCMO SURIN	2
			PCMO SAKONNAKHON	2
			PCMO MUKDAHARN	2
			PCMO NAKHONPHANOM	2
			PCMO NAKHONRATCHASIMA	2
			PCMO RUIET	2
			PCMO PHRANAKHONSIAYUTTHAYA	2
			PCMO NAKHONSAWAN	2
			PCMO PHICHIT	2
			PCMO PHETCHABUN	2
			PCMO CHONBURI	2
			PCMO PRACHINBURI	2
			PCMO PHETCHABURI	2
			PCMO PHATTHALUNG	1
			PCMO PHANGNGA	1
			PCMO KRABI	1
			PCMO SURATTHANI	1
			PCMO TRANG	1
			PCMO SONGKHLA	1
			PCMO NAKHONSITHAMMARAT	1
			PCMO SATUN	1
			PCMO PATTANI	1
			PCMO NARRATHIWAT	1
			PCMO YALA	1
			PCMO CHIANGMAI	1
			PCMO MAEHONGSON	1
			PCMO PHAYAO	1
			PCMO LAMPANG	1
			PCMO NAN	1
			PCMO CHIANGRAI	1
			PCMO VTTARADIT	1
			PCMO SUKHOTHAI	1
			PCMO PHITSANULOK	1

ITEM	DESCRIPTION	TOTAL	DISTRIBUTION	NO.
			PCMO SINGBURI	1
			PCMO ANGTHONG	1
			PCMO SARABURI	1
			PCMO NAKHONPATHOM	1
			PCMO SAMUTSONGKHRAM	1
			PCMO RAYONG	1
			PCMO CHANTHABURI	1
			PCMO TRAT	1
			PCMO LOEI	1
			PCMO YASOTHON	1
			PCMO UTHAITHANI	1
			PCMO LOPBURI	1
			PCMO LUMPOON	1

V. OFFICE EQUIPMENT PROVIDED BY JICA 1987/88  
AND DISTRIBUTION

ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
V.	<u>OFFICE EQUIPMENT</u>	1		
V.1.1	SEMI AUTOMATIC STRAPPING MACHINE SPOT LSA-N-H 1898	1	LOGISTIC SUB-UNIT FAMILY HEALTH DIVISION	1
V.1.2	PHOTOCOPY MACHINE RICOH FT-4480	2	LOGISTIC SUB-UNIT FAMILY HEALTH DIVISION SUB MCH CENTER UTHAI THANI	1 1
V.1.3	ELECTRIC TYPEWRITER MASTER TYPE BT	2	ADMINISTRATION SECTION FAMILY HEALTH DIVISION TRAINING SUPERVISION AND EDUCATION SECTION FAMILY HEALTH DIVISION	1 1
V.1.4	ELECTRONIC SCANNER GESTETNER MODEL 4194	2	ADMINISTRATION SECTION FAMILY HEALTH DIVISION RESEARCH AND EVALUATION SECTION FAMILY HEALTH DIVISION	1 1

I. MEDICAL EQUIPMENT PROVIDED BY JICA  
AND DISTRIBUTION PLAN  
 JFY 1988/1989

ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
1.1	ULTRASOUND TOSHIBA MODEL - SAL - 38 B SONDLAYER - V	1	BANGKOK HPC	1
1.2	OPERATING LAMP DAIKYO : DKS-9905 HD	2	KHON KAEN HPC THABO DISTRICT HOSP. NONGKAI	1 1
1.3	CENTRIFUGE KOKUSAN : H 103 N	2	YALA HPC NAKHON SAWAN HPC	1 1
1.4	HEMATOCRIT CENTRIFUGE TOYO : BILMATIC 8	1	YALA HPC	1
1.5	BIPOLAR COAGULATOR MIZUHO : TRC 1500 B	3	RATCHABURI HPC NAKHON SAWAN HPC POL, SUB - HPC	1 1 1
1.6	BLOOD BANK REFRIGERRATOR JEWET : BB - 2	1	UTHAITHANI SUB-HPC	1
1.7	AUTO CLAVE HIRAYAMA : HA - 3D	1	UTHAITHANI SUB-HPC	1
1.8	SYRINGE INFUSION PUMP ATOM : 235	2	RATCHABURI HPC	2
1.9	FETAL MONITORING NIHON KHODEN:OMF 8100 K	1	CHANGMAI HPC	1
1.10	AUTOMATIC WITH INFANT CUFF DINAMAP : 1846 SX	1	RATCHABURI	1
1.11	INFANT INCUBATOR ATOM : V-850 W (SC)	4	RATCHABURI HPC CHIANGMAI HPC	2 2
1.12	INFANT VENTILATOR BEAR : BP - 200	1	NAKHON SAWAN HPC	1



II AUDIO VISUAL EQUIPMENT

ITEM	DESCRIPTION	TOTAL NO.	DISTRIVUTION	NO.
II.1	AUDIO MIXER CONSOLE SONY : MXP-61 VU	1	ALL EQUIPMENT WILL BE USED IN THE RADIO LAB. ROOM AT	
II.2	STEREO CASSETTE DESK SONY : TC-K333 ESx	1	FAMILY HEALTH DIVISION	
II.3	STEREO CASSETTE DESK SONY : TC-FX 330	1		
II.4	OPEN REEL TAPE RECORDER SONY : APR-5002	2		
II.5	OPEN REEL AUDIORECORDER SONY : ATR - 60-2N	1		
II.6	CONTROL POWER AMPLIFIER SONY : PA - A 200	2		
II.7	POWER AMPLIFIER SONY : TA-N 7050	1		
II.8	COMPACT MONITOR SPEAKER SONY : 55-PS20	2		
II.9	SPEAKER SYSTEM SONY : 55-P200	2		
II.10	CONDENSER MICROPHONE SONY : C - 48	2		
II.11	CASSETTEE DUPLICATOR SONY : CCP-310	2		
II.12	CASSETTEE PRINTER SONY : CCP-S14	1		
II.13	OPEN REEL TAPE DESK TEAC : 42B 2TRACK/2CH	10		
II.14	MULTI IMAGE SYSTEM SRION D-16 MATE-TRAC	1		

ITEM	DESCRIPTION	TOTAL	DISTRIBUTION	NO.
		NO.		
II-15	4 PLUS DISSOLBVE CONTROL : ARION FOUR PLUS	1		
II-16	SYNCHRONIZ CASSETTEE TAPE : TASCAM : RECORDER			
II-17	MONO CASSETTE TAPE RECORDER : ELMO : 152 S			
II-18	SLIDE PROJECTOR : ELMO : 252 AF	1		
II-19	INFRARED REMOTE CONTROL : ELMO : OMNI-252	2		
II-20	U-MATIC VIDEO CASSETTE : RECORDER AND PLAYER : SONY : VO 7630	1		
II-21	35 MM SLR CAMERA : CANON : EOS650 EF 35-70mm	2		

III. OFFICE EQUIPEMNT

ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
III.1	PRINTING MACHINE : GESTETNER : 311	1	HEALTH EDUCATION DIVISION	
III.2	ROTRING NC - XERIBER : ROTRING : NC-XERIBER 10	1	INFORMATION SECTION, FHD	1
III.3	TYPEWRITER : OLYMPIA : STANDARD 200BT	3	FHD	3
III.4	PHOTOCOPY MACHINE : RICOH : FT 4480	2	FHD	2
III.5	TRANSPERENCY MAKE R : 3M : 4550	6	KHON KAEN NURSING COLLEGE LUMPANG NURSING COLLEGE NAKHON SAWAN NURSING COLLEGE RATCHABURI NURSING COLLEGE YALA NURSING COLLEGE VICHIRA NURSING COLLEGE	1 1 1 1 1 1 1
III.6	AIR CONDITIONER : MITSUBISHI : PC.3F	2	INFORMATION SECTION, FHD "	1 1
III.7	POWER STABILIZER : FUJIYAMA : 500 KVA	1	INFORMATION SECTION, FHD	1

IV.1 MOTORCYCLES PROVIDED BY JICA 1988/1989

AND DISTRIBUTION PLAN

ITEM	DESCRIPTION	TOTAL	DISTRIBUTION	NO.
IV.1	MOTORCYCLES	87	PCMO NAKHON SAWAN	3
	HONDA		PCMO NAKHON SI THAMMARAT	3
	MODEL C 100		PCMO SURAT THANI	3
	B(DREAM)			
	The 87 motorcycles		PCMO ROI ET	3
	will be distributed		PCMO KHON KAEN	3
	to support the FP/MCH		PCMO SONGKHLA	3
	campaign project for		PCMO NAKHON RATCHASIMA	3
	87 health centers at		PCMO UDON THANI	3
	tambon level in 37		PCMO UBON RATCHATANI	3
	provinces		PCMO NONG KHAI	6
			PCMO PHRA NAKHON SI -	
			PCMO AYUTTHAYA	2
			PCMO CHACHOENGSAO	2
			PCMO CHON BURI	2
			PCMO PHETCHABURI	2
			PCMO PRACHIN BURI	2
			PCMO KAMPHAENG PHET	2
			PCMO PHETCHABUN	2
			PCMO PHICHIT	2
			PCMO KRABI	2
			PCMO PHANGNGA	2
			PCMO TRANG	2
			PCMO PHATTHALUNG	2
			PCMO CHAIYAPLHM	2
			PCMO BURI RAM	2
			PCMO SURIN	2
			PCMO NAKHON PHANOM	2

ITEM :	DESCRIPTION :	TOTAL :	DISTRIBUTION :	NO. :
			PCMO KALASIN	2
			PCMO SI SA KET	2
			PCMO SAKON NAKHON	2
			PCMO NUKDAHAN	2
			PCMO YASOTHON	2
			PCMO NAHA-SARAKHAM	2
			PCMO LOEI	2
			PCMO PATTANI	2
			PCMO YALA	2
			PCMO NARATHIWAT	2
			PCMO SATUN	2

IV.2 TRANSPORTATION

ITEM	DESCRIPTION	TOTAL NO.	DISTRIBUTION	NO.
IV.2	MICROBUS.			
	NISSAN : 52 2VHGE 24 DVU:	5	PLAN TO DISTRIBUTE TO:	
	2000 CC GASOLENE		PCMO. AND FHD.	

ANNEX IV

Frequency of using major equipment (HPC Region VI)

1. Ultrasonogram = 1,000 - 1,200 times/year
2. Fetal heart rate monitor = 850 times/year

notice: No. of delivery in 1988 is 3872

## ANNEX V

Status of MCH/FP in 1988 Region VI

ANC > 4 times	70.26 %
Delivery by health personnel	72.10 %
Post Partum care & neonatal care	81.75 %
IMR (per 1,000)	10.77
MWR (per 100,000)	61.15
Death rate (per 1,000)	2.93
Birth weight (2,500 g.)	8.41 %
CPR (Contraceptive prevalence rate)	94.20 %



## Annex VI

Name of Thai Officials trained in Japan  
Supported by Japanese Government  
1985 - 1988

Duration	NAME	FORMER POSITION	CURRENT POSITION
14 Feb. - 24 March 1985	1. Dr. Vira Niyomwan	Director, MCH Center Rachaburi	Director, FHD
	2. Mr. Chinda Thirapun	Director, Midwifery School, Yala MCH	The same
	3. Mr. Pichai Ruenthong	Senior Communicator	The same
30 Oct. - 17 Nov. 1985	4. Dr. Ulit Leeyavanija	Deputy Director General, Medical Sciences	Retirement pension
	5. Dr. Sapon Chalapati	Director MCH Centre, Khenkaen	Director School Health Division
	6. Mr. Niyom Siniwat	Assistant Head, Mobile Motivation Unit IE&C Section, FHD	The same (Further study on MPH in USA.)
18 Jan. - 7 Feb. 1987	7. Mr. Suthon Panyadilok	Chief, Research and Evaluation Section	The same
	8. Ms. Audcharee Kwangsopa	Senior Communication IE&C Section, FHD	The same
23 Nov. - 12 Dec. 1987	9. Ms. Nanta Amkul	Senior Medical	The same
	10. Ms. Umpa Kanthapang	Chief, Midwifery School MCH Center, Region 6	The same (Further study on MCH in USA.)
	11. Ms. Pavaya Ruttanavijit	Senior Communicator IE&C Section	The same
28 Nov. - 20 Dec. 1988	12. Mr. Mongkol Jittawatanakorn	Director of Health Promotion	Director of Central Hosp. Ratchaburi
	13. Ms. Chsie Sujpluem	Chief, Training, Supervision and Education Section	The same
	14. Mr. Pancha Chittanandha	Senior Communication IE&C Section	The same

ANNEX VII

Prevalence of HBV infection in pregnant women  
at Health Promotion Centers.

HPC, Region 4 Khon Kaen

HPC, Region 6 Nakhon Sawan

HPC, Region 7 Ratchaburi

DR. SUMALEE BOONMAR.

VIRUS RESEARCH INSTITUTE,

DEPT. OF MEDICAL SCIENCE.

Abstract Prevalence of HBV infection in pregnant women at Mother Child Health Centers.

Sumalee Boonmar, 1 Rachaneewan Sirinawin 2

1. Virus Research Institute, Dept of Medical Science. 2. Family House Division Department of Health

Prevalence of HBV infection in pregnant women at 3. Mother Child Health Centers (Khon Kaen, Rajaburi and Nakonsaeen) was studied. Sera were collected from 1,500 pregnant women during June 1988 - January 1989 and were screened for 5 HBV markers using RPHA and PHA method. The results showed that 5.07 % of pregnant women were positive to HsAg<sup>3</sup>, 21.5 % to Anti-HBs) 40.6 % to Anti-HBc, 1.5 % to HBeAg and 7 % to Anti-HBc. Pregnant women in Khon kaen MCH Center were the most high risk to HBV infection among 3 Mother Child Health Centers.

## Results

Most pregnant women in all HPC centers are 21-30 years old (Table 1) and prevalence of 5 HBV markers in each age group is summarized in Table 4

Comparison of the prevalence of HBV markers in pregnant women in each HPC is illustrated in Table 2. It shows that positive rates of HBsAg were the same in Khon Kaen and Ratchaburi HPC (4.6 %) but they were a little lower than that in Nakhon Sawan HPC (P = 0.05)

It also shows that positive rate of Anti-HBs in Khon Kaen HPC (15.4 %) was significantly lower than that in Ratchaburi (24.4 %) and Nakhon Sawan HPC (24.8 %) at P = 0.05

The positive rates of Anti-HBc were 44.8 % in Ratchaburi and 45.6 % in Nakhon Sawan and they were significantly higher than that in Khon Kaen (31.4 %) at P = 0.05. The positive rates of HBeAg were about the same (1.6 %) in the HPC. Furthermore the positive rates of Anti-HBe were not different in Khon Kaen and Ratchaburi HPC but they were significantly different from the positive rate in Nakhon Sawan (P = 0.05)

Table 3 shows that 62.4 % of pregnant women in Khon Kaen HPC risked to HBV infection when compared to the other 2 HPC.

## Introduction

Viral hepatitis B infection is regarded one of the major public health problem in Thailand. The percentage of HBsAg positive carriers in Thai population is high, around 5 - 10 %. Such carriers are prone to develop serious chronic sequelae of HBV infection such as chronic active hepatitis, liver cirrhosis and hepatocellular carcinoma. (1-4) There is considerable evidence that vertical transmission is a very important factor in the transmission of HBV. The pervious study in Thailand about prevalence of HBsAg carrier among the pregnant women at the Ramathibodi hospital was 6.7 percent and the vertical transmission rate to their infants was 34 percent (5) The aim of this study was to find out the prevalence of HBV markers in pregnant women at Health Promotion Center (HPC) Khon Kaen, Ratchaburi, Nakhon Sawan.

## Materials and methods

Sera were obtained from 1,500 pregnant women attending Khon Kaen, Ratchaburi, Nakhon Sawan HPC from June 1988 to January 1989. All sera were screened for 5 HBV markers (HBsAg, HBsAb, HBc Ab, HBe Ag and HBe Ab) and were measured by Reverse Passive Haemagglutination (RPHA) and Passive Haemagglutination (PHA). The reagent kits for HBV markers screening were purchased from the Green Cross Corporation and the methods of screening were determined according to the specification of each kit.

To determine if the proportions of HBV marker were the same among the 3 HPC, we used a statistical test for differences in proportions

Table 1 Age distribution of 500 pregnant women from each MCH centers.

MCH Center	15 - 20 y per cent	21 - 30 y per cent	31 - 40 y per cent	41 - 44 y per cent
Khon Kaen	25	66	8.8	0.2
Ratchaburi	17.2	67.6	14.6	0.6
Nakhon Sawan	18	68	13.4	0.6

Table 2 Prevalence of HBV markers in 500 pregnant women from each MCH centers

MCH centers	HBV markers				
	HBsA per cent	HBsAb per cent	HBc Ab per cent	HBs Ag per cent	HBs Ab per cent
Khon Kaen	4.6	15.4**	31.4 **	1.4	4 *
Ratchaburi	4.6	24.4*	44.8 * <sup>p</sup>	1.6	6.2 *
Nakhon Sawan	6 *	24.8*	45.6 *	1.6	10.8**
Total	5.07	21.5	40.6	1.5	7

\*\* statistical difference P < 0.05 \* No statistical difference P > 0.05

Table 3 perantage of pergnant women who risk to HBV infection from each MCH centers.

HPC	No. of HBV markers (HBsAg, HBs, Ab, HBcAb)	No. of risk
Khon Kaen	189 (37.8 %)	311 (62.4 %)
Ratchaburi	237 (47.4 %)	263 (52.6 %)
Nakhon Sawan	267 (53.4 %)	233 (46.6 %)

Table 4 Prevalence of HBV markers of pregnant women

(a) in 15 - 20 years age group

HPC	No. of pregnant women	HBsAg percent	HBsAb percent	HBc Ab percent	HBe Ag percent	HBe Ab percent
Khon Kaen	125	2.4	12.8	39.6	-	1.6
Ratchaburi	86	3.5	17.4	46.5	2.3	5.8
Nakhon Sawan	90	6.7	23.3	53.3	2.2	15.6

(b) in 21 - 30 years age group

HPC	No. of pregnant women	HBsAg percent	HBsAb percent	HBcAb percent	HBe Ag percent	HBe Ab percent
Khon Kaen	330	5.8	16.4	30.9	2.1	4.2
Ratchaburi	328	5.6	25.1	41.4	1.5	6.5
Nakhon Sawan	340	5.3	23.5	40.8	1.5	8.8

(c) in 31 - 40 years age group

HPC	No. of pregnant women	HBsAg percent	HBsAb percent	HBcAb percent	HBeAg percent	HBeAb percent
Khon Kaen	44	2.3	15.9	40.9	-	9.1
Ratchaburi	73	1.4	28.8	57.5	1.4	5.5
Nakhon Sawan	67	8.9	34.3	56.7	1.5	14.9

(d) in 41 - 44 years age group

HPC	No of pregnant	HBs Ag percent	HBs Ab percent	HBc Ab percent	HBe Ag percent	HBe Ab percent
Khan Kaen	1	-	-	-	-	-
Ratchaburi	3	-	33.3	66.7	-	-
Nakhon Sawan	3	-	-	100	-	-

### Discussion

Recently there are many methods for screening HBV markers for example, RIA, ELISA, RPHA and PHA. The sensitivity of these methods can be ranked in order from high to low (6 - 7) However WHO has recommended RPHA and PHA methods for routine work in laboratories because of their cost and time consuming. Now screening HBV marker among pregnant women is very important as it is the best prior - protection of this disease from mothers to newborns and the possibility to interrupt vertical transmission can be done by treatment with HB - immunoglobulin (HBIG) of infants born to HBsAg especially HBeAg positive mothers and by immunization with HBV vaccine of the infants born to HBeAg negative mothers (8)

The previous study on carrier rate in pregnant women at Rajavithi hospital (9) was done in urban area and it showed that 5.1 % was positive to HBsAg which was similar to the result obtained in this study done in rural area. Moreover the results from both studies were similar to general population

The presence of Anti-HBs in pregnant women was 21.5 % which was slightly lower than that had been found in other studies (3) Since most pregnant women in our study had age in the range of 21 - 30 years.



In Anti-HBc case, we found that 40.6 % was positive to HBcAb which was similar to Scott's reported (10)

Thanuntaseth et al (11) found that the persence of HBeAg in carrier pregnant women was quite high (41.2 %) using EIA method but we found that only 30.26 % (23/76) was highly infectius pregnant women using RPHA method. This due to the fact that RPHA method has lower sensitivity than RIA method. Furthermore in their study the persence of Anti-HBe in carrier pregnant, women was 22.8 % but in our study 36 % (11/30) of Anti-HBe in carrier pregnant women were detected by RPHA method at Nakhon Sawan HPC.

Finally this study shows that pergnant women from Khon Kaen HPC had higher risk to HBV infection than pergnant women from the other 2 HPC. The cause may be that the pergnant women in Khon Kaen have low socioecomic status and under developed health care system.

#### Acknowledgements

This study was supported by JICA grant. The authors are indebted to Dr. Boonluan Phanthumachinda, Deputy Director General, Department of Medical Sciences, Dr. Vira Niyomwan, Dircetor of Family Health division, Ms. Patama Bhiromrut, Chief of Public Information, Family Health Division for the initifion of this study and also great appreciation to Mr. Shinya Iwayanagi, JICA coordinator for his excellently coordination. Lastly our sincere thank to Ms. Matanee Anuttarachatchawon, Ms. Sangdoen Vongmetta and Ms. Busaba Tachchainirant for their technical assistance.

## References

1. Punyagupta, S., Olson, LC, Hasinasuta, U etal The epidimiology of hepatitis B antigen in a high prevalence area. Am j Epidem 1973, 97 349-54
2. Thongcharoen, P., Panpatana, P., Wasi, C. etal. The incidence of hepatitis B surface antigen in tropical infectious and liver diseases in Thailand. J Med Assoc Thai. 1976; 59 : 546-9
3. Grossman, RA, Beneson, MW, Scott, RW. etal. An epidemiologic study of hepatitis B virus in Bangkok, Thailand. Am j Epidem 1975; 101 : 144 - 59
4. Chiewsilp, P., Vinyam S, Bhamarappravat, N. HB Ag and HB Ab in Thai blood donor. Trans R Soc Trop Med Agg. 1974, 68 : 339- 40
5. Theppisai, U, Chewsilp, P. et al. Hepatitis B surface antigen in asymptomatic carrier mothers and vertical transmission of hepatitis B virus J Med Assoc Thai 1984, 67 (supple 2) 90-3
6. Caledwell, C.W, Barnett, J. T. Enzyme immuncassay for hepatitis B and its comparison to other methods Clin Clun. Acta 1971 ; 81 : 305
7. Hollinger, F.B. Vorndam, V, Dressman, GR. Assay of Australia antigen and antibody and antibody employing double antibody and solid phase radioimmuncassay techniques and comparison with the passive haemagghitination methods J Immunot 1971; 107 ; 1099
8. Pongpipat, D, Suvatte, V Hepatitis B immune glbulin (HBIG) Efficiency in the interruption of rertical transmission of happititis B virus carrier state. J Med Assoc Thai. 1983; 66 49 - 53

9. Pojanagaron, B, Boonmors, S. et al Protection efficacy of Plasma - derived hepatitis B vaccine in preventing perinatal transmission of HBV infection in infants of HBsAg/ HBsAg positive mothers Southeast Asian J trop Med Pub Hlth 1988; 19 - 615 - 21
10. Scott, RM, Suthhan, R et al Epidemiology of hepatitis B in a well defined rural Thai population. The Annual program Report of the Armed Forces Research Institute of Medical Sciences April 1976 - March 1977 Bangkok chongcharoen, 1975, 88 - 89
11. Thanuntaseth, C, Theppisai, U. et al. Prevalence of HBe Ag and Anti - HBe in asymptomatic HBs Ag carrier mothers and HBV infection in their families J Med Assoc Thai. 1988; 71 : 98 - 100

Annex VII

The Study of Maternal and Child Health Status of  
Mothers whose Children attended Medical Care Service  
at Health Promotion Center, Region 5

## Abstract

The purpose of this research was to study the maternal and child health and family planning practices of mothers. The study included a comparison of difference of maternal and child health practices during the prenatal, postnatal and child care periods, as well as the differences by service-type, maternal age, maternal education and monthly family-income. The 300 subjects were married, fertile women and had at least one child under five years. The data collection method of the study consisted of the questionnaire form, together with a criterion lists for the scoring form. The data was collected through interviewing.

The results of the study are as follows:

### 1. Maternal and Child Health practices:-

1.1 Prenatal practices; 97.7 % attended prenatal care and 46% started to attend prenatal care during 4-6 months of pregnancy; 41.4% started to attend prenatal care during 1-3 months of pregnancy. High percentage of mothers (96.7%) received complete tetanus immunization.

1.2 Natal care; 98% of mothers were delivered by health personnel.

1.3 Postnatal care; 42% of mothers had forbidden food which was some kinds of meat and egg during postpartum period.

1.4 Child care practices; 93.3% of infant were breast feeding, 42.3% of infants were fed with proper supplementary food and 6% were improper fed (rice and banana) within 7 days until 6 months of age. High percentage of infants (94.7%) had got vaccination at the proper age.

1.5 Family planning practice; 76.3% of mothers knew about birth control methods from health personnel and 95.3% practiced birth control, injection of drug ranks the first (34%) and tubal ligation ranks the second (32.7%).

2. The relationship of service-type, maternal age, maternal education and monthly family income of mothers and maternal and child health practices was as follow;

2.1 Service-type; mothers whose children attended immunization service had better maternal and child health practices in all 3 periods: prenatal, postnatal and child care than mothers whose children attended medical service; the difference showed statistical significance at 0.01 level ( $P = 0.006$ ,  $P < 0.001$ ).

2.2 Maternal age : there was no statistically significant difference of maternal and child health practices between mothers of the younger age group (15-24 years) and those of the older age group (25-44 years)

2.3 Maternal education : there was no statistically significant difference of postnatal and child care practices between mothers who had lower education (primary school and no education) and those who had higher education (secondary school and higher), but mothers who had higher education had better prenatal practice than those who had lower education ; the difference showed statistical significance at 0.01 level ( $P = 0.002$ )

2.4 Monthly family-income : there was no statistically significant difference of postnatal and child care practices between mothers who had lower monthly income (2,500 baht and lower) and those who had higher monthly income (more than 2,500 baht), but mothers who had higher monthly income had better prenatal practice than those who had lower monthly income; the difference showed statistical significance at 0.01 level ( $P = 0.001$ ).

## Short term Experts dispatched by JICA

Name	Title	Duration
JFY 84		
1. Mr. K. Tanabe	Cooperation Planning	1984 8.28 - 9.15
2. Mr. Y. Nagao	Medical Equipment	"
3. Mr. S. Iwayanagi	Coordination	"
4. Mr. N. Hyoi	Public Health	8.28 - 9.27
5. Dr. E. Matsuyama	Maternal Health	9.10 - 9.15
6. Dr. K. Nishioka	Demography	"
7. Dr. F. Oryoji	MCH	1985 3.17 - 3.31
8. Dr. H. Otsuka	OEGYN	"
1. Mr. S. Iwayanagi (Long Term Expert)	Coordination	1985 1.10 - 1989 3.31
JFY 85		
JFY 86		
1. Dr. T. Eto	Pediatrics	1986.10.8 - 10.22
2. Dr. H. Uchino	OEGYN	1986.10.8 - 10.18
JFY 87		
1. Prof. K. Suetake	Educational Technology	1987. 8.30 - 9.6
JFY 88		
1. Dr. E. Matsuyama	Maternal Health	1988.10.9 - 10.16
2. Dr. T. Takahashi	MCH Administration	"
3. Ms. K. Miyazato	Public Health Nursing	"
4. Mr. Y. Koike	Coordination	"
5. Prof. Y. Nakajima	Psychology	1988. 12.12- 12.21

Mission dispatched by JICA

Name	Title	Duration
JFY 84  Repairing and Maintenance Team  1. Mr. Y. Nagao 2. Mr. N. Kobayashi		1985. 3.17 - 3.31  "
JFY 85  Repairing and Maintenance Team  1. Mr. N. Kobayashi 2. Mr. T. Takahashi 3. Mr. Y. Watanabe 4. Mr. A. Naruse  Advisory Mission  1. Dr. E. Matsuyama 2. Dr. K. Nishioka 3. Mr. M. Watanabe	Leader  Demography  Coordination	1985. 6.9 - 6.23  " " "  1986. 1.30-2.7 " "
JFY 86  Advisory Mission  1. Dr. E. Matsuyama 2. Dr. K. Nishioka 3. Ms. N. Inada	Leader  Demography  Coordination	1986.10.14 - 10/22 1986.10.8 - 10/18 1986.10.8 - 10/22



<p>JFY 87</p> <p>Advisory Mission I</p> <p>1. Mr. Y. Ikeda</p> <p>2. Mr. M. Tatebe</p> <p>Advisory Mission II</p> <p>1. Dr. E. Matsuyama</p> <p>2. Prof. T. Mizukoshi</p> <p>3. Dr. K. Nishioka</p> <p>4. Dr. T. Yasukawa</p> <p>5. Mr. M. Watanabe</p>	<p>Cooperation Planning</p> <p>Coordination</p> <p>Leader</p> <p>IEC</p> <p>Demography</p> <p>Pediatrics</p> <p>Coordination</p>	<p>1987. 11.16-11.22</p> <p>1988. 4.4 - 4.12</p> <p>"</p> <p>"</p> <p>"</p> <p>"</p>
<p>JFY 88</p> <p>Evaluation Mission</p> <p>1. Dr. E. Matsuyama</p> <p>2. Dr. T. ETO</p> <p>3. Ms. M. Ishii</p> <p>4. Mr. A. Taguchi</p> <p>5. Mr. M. Watanabe</p>	<p>Leader</p> <p>Pediatrics</p> <p>Public Health</p> <p>IEC</p> <p>Coordination</p>	<p>1989. 2.19-3.1</p> <p>1989. 2.19-3.8</p> <p>1989. 2.19-3.1</p> <p>1989. 2.19-3.1</p> <p>1989. 2.19-3.1</p>

## V その他参考資料

### V-1 MCHセンターにおける機材の使用状況調査報告書

(機材のレベル調整の勧告文を含む)

これまでにタイ国に国際協力事業団を通じて供与された小児科領域に関する医療機材について、その利用状況をチェンマイ、コンケン、ラブリの各MCHセンターおよびコンケンサブセンターにて視察した。いずれの施設においても、供与された機材は十分有効に活用されており、本来の目的に使われていなかったり、使用されずに放置されているというような状況は認められなかった。実際に観察した医療機材としては、保育器、インファントウォーマー(ラディアントウォーマー)、持続陽圧呼吸装置(CPAP装置)、自動輸注ポンプ(輸液ポンプ)、光線療法ユニット、酸素ボックス(酸素テント)、ビリルビン測定装置(ビルビンメーター)、超音波診断装置などが挙げられる。(これらの中には国際協力事業団の供与した機材以外のものも含まれる)

超音波診断装置に関しては、トレーニングを受けた医師のみが操作し、診断を下しているようであった。このこと自体は好ましいことであると思われるが、操作できる医師が限定されており、機器の活用という点で考えると、より多くの医師が利用できるような工夫が必要であると思われる。すなわち、超音波診断装置の使用についてトレーニングを受けた医師がセンター内で講習会を開き、利用できる医師数をふやすような努力が望まれる。本装置は比較的操作が簡単であり、診断については実際の症例を数多く経験することにより実力がついていくという性質のものである。有害な放射線も使用しておらず、患者への障害も全くといってよいほどないので、より多くの医師により活用されることが望ましい。

次にタイの医療レベルについて述べてみたい。

各MCHセンターの建物の構造については、概ね機能的によく作られていると思われた。しかし、一部の施設では、未熟児室へ入室する際の手洗い設備が不十分であったり、エアコンディショニングがなかったりしており、今後の改善が望まれる。

保育器は概してどの施設でも不足しており、きわめて旧式の保育器もまだ現役で活躍していた。保育器の不足のため、本来ならば保育器に収容することが当然必要とされる低体重出生児(未熟児)が収容しきれず、やむを得ずコット(新生児用ベッド)に入れられているというような光景も観察された。

MCHセンターが、その地域の母子保健に大きく寄与する要素の一つとして新生児医療の充実が挙げられる。今回の視察で面談したMCHセンター所属の小児科医師の技術レベルおよび意欲は、新生児医療を推進していく上で十分に高いように感じられた。今後、人工呼吸器、各種モニター類、新生児用診断・検査機器など新生児の集中治療(intensive care)のための各種機器の要求はますます高まると思われる。家族計画・母子保健対策全体のバランスのとれた

施策が行われる中で、新生児医療の充実はその地域の乳児死亡率を低下せしめることに大いに貢献するであろう。

一般に診断設備はまだ不十分である。例えば、ポータブルX線撮影装置。これは呼吸管理を要するようなハイリスクベビーの診療を行うためには少なくとも1台が必要である。

また、検査機器については現在はまだ極めて不十分な状態である。今後、新生児集中治療の機能をMCHセンターが担うとしたら、言いかえるなら重症新生児・未熟児の治療と介護を大学病院等の大病院に全て搬送するのではなく、MCHセンターにおいても可能なかぎり集中治療を行うことを目指すならば、上述のごとく人工呼吸器のような治療機器、モニター類のような継続的監視装置のほか血液ガス分析装置、血糖分析装置、血清電解質測定装置\*、血液生化学自動分析\*、血清学的検査機器\*、細菌学的検査機器\*等が必要である。\*印は、仮に高度な集中治療施設としての役割をこなわなとしても、今後医療レベルの向上を計るためには導入に力をいれるべき機器である。これらの機器の導入に際しては、そのメンテナンスについても十分な配慮が加えられるべきである。できることなら現地に代理店のあるメーカーの製品の方が故障・修理等のアフターケアの面で望ましいと考えられる。

※本件調査は、昭和61年度に実施された。

## #1. Infant Ventilation

The infant ventilation is needed at least one in each MCH Center. But, considering the high rate of birth, some MCH Centers need one more, namely two ventilators.

It must be noted that infant ventilation has a function of CPAP, too.

Under the circumstances of using infant ventilators, medical staffs are required high knowledge and techniques about infants' respiratory care and related complications. Portable X-ray systems and neonatal monitors for watching infant's heart rate and respiratory rate are needed, too. A blood gas analyzer will be also needed when infant ventilators are used for neonatal intensive care.

In other words, the infant ventilator is a gate to the neonatal and infantile intensive care. So, the related equipments and technology must be needed afterwards.

Note: Here, we can think that an infant ventilator, an infant respirator and a neonatal respirator are synonyms.

## #2A. Portable X-ray

Portable X-ray systems are very important, if the neonatal intensive care including respiratory control using infant ventilators would be taken in MCH Centers.

## #4. Infant CPAP

An infant CPAP system has, of course, only an function of CPAP (continuous positive airway pressure). So, if the baby's spontaneous breathing stops, this DCPAP system will be of no use.

Now, we can use good infant ventilators (or respirators), it is usual way to use an infant ventilator, for example, BP 2001 (Bear), instead of Atom CPAP systems anymore.

Note: An infant ventilator, for example BP-2001, has three functions; IPPV (Intermittent positive pressure ventilation), IMV (Intermittent mandatory ventilation), CPAP (Continuous positive airway pressure).

#5. Apnea monitoring → Neonatal monitor

Apnea monitoring monitors only respiratory rates. But, neonatal observations are necessary to respiratory condition and heart rate.

Apparatus combined with the function of heart rate and respiratory rate is good useful in the neonatal observation.

I recommended the Neonatal monitor.

#8. Fetal monitor

Fetal monitor is essential to the prenatal care. In Japan routinely all pregnant women are observed by the fetal monitor during delivery.

I think MCH Center may have one fetal monitor at least. In Japan usually we take external method and internal method is rare.

In high risk pregnancy I recommend the NST before the onset of labor.

#6. Infant warmer with resuscitator

Ideally, Infant warmers should be set in three sections.

1. Delivery room 1 set\*
2. Operating room → for C-section 1 set\*
3. \*\* Pediatric department → one is for intensive care, 1 - sets  
and one is for exchange  
transfusion, etc.

Notes: \* It is not impossible that warmers use in either delivery room or operating room, because the warmer can be moved.

\*\* The infant warmer used in paediatric department would rather has luminant lamps for phototherapy and servo-control of baby's temperature.

#7. Oxygen blender → Oxygen controller

Oxygen controller has not only a function of oxygen analyzing but functions of blending and controlling oxygen concentration automatically.

So, this saves the handling of the nurses about adjusting the oxygen concentration levels.

#13. Infant incubator

Usually in most infants, a serbocontrol system is not needed. A manual type, for example, ATOM Infant Incubation Model V-80/MC, has an alarming system for overheating.

The case who needs serbocontrol of baby temperature may be needed an intensive care. So such case would rather tested on the radiant warmer.

#14. Anesthetic machine = Anesthetic ventilator

In Japan, general anesthesia is performed by the specialist of anesthesia or Surgery.

I think the automatic anesthetic method has many problem in managing patient during operation. For example, there are many troubles in handling machines and poor evaluation of patient condition during operation.

I think usually manual method is safest and best.

#48. Ultra Sound

Ultra Sound is the best useful machine in the apparatus of obstetric management. We can not manage the pregnant woman without the ultrasound machine.

In Japan, all pregnant woman have at least one check by a ultrasound, during pregnant period. I recommend you follow up the high risk pregnant woman during pregnancy.

#17. Ultrasonic nebulizer or Nebulizer

To supply moisture to the sick patient, an ultrasonic nebulizer is useful. But, common-type nebulizer would be preferable when some drugs, for example bronchodilator, are added. (Becasuse some drugs are destroyed by the energy of ultrasound.)

#23. Oxygen Tent

<additional recommendation>

In premature babies who put in the incubator, oxygen head box\* would be rather used. It saves oxygen gas consumption and it is easy to get a high concentration level.

\* For example.

ATOM Oxygen Head Box for Infant (OX-900)

ATOM Catalog 1985, p.190









JICA