#### **REFERRENCES**

- Areekul, S., et. al. Prevalence of anemia in pregnant Thai women. J. Med. Ass. Thailand 1976; 59(12):525-531 ., et. al. Prevalence of anemia in Thai school children. J. Med. Ass. Thailand 1972; 55(8):94-99 ., et. al. Studies on blood loss, iron absorption and iron reabsorption in hookworm patients. Southeast Asian J.Trop Med. Pub. Health. 1970;1(4):519-523 Basta, S.S., Sockirman, Karyadi, et. al. Iron deficiency anemia and the productivity of adults males in Indonesia. Am. J. Clin. Nitr. 1979,32:916-925 Butaraj, S., et. al. Prevalence and severity of soil-transmitted helminthiasis in southern part of Thailand. Songkla Med. J. 1982; 4: 1-7 Charoenlarp, P., et. al. A WHO collaborative study on iron supplementation in Burma and Thailand. Am. J. Clin. Nutr. 1988; 47:280-297 ., Iron fortification of fish sauce in Thailand. Proceeding of IV Asian Congress of Nutrition, Bangkok Thailand; 1983; 527-530 Chaturachinda, K. Anemia of pregnancy and epidemiologic study. J. Med. Ass.
- Chularerk, U., Luangperom, A. Prevalence of intestinal parasitic infections and efficacy of meabendazole and albendazole against soil-transmitted helminthiasis among the school children of Wat-Sra-Kew school, Angthong, J. Parasit, Trop. Med. Ass. Thailand 1988: 11(2):51-61

Thailand. 1972;55(8):94-99.

- Cook, J. Clinical evaluation of iron deficiency. <u>Seminars in Hemato</u>. 1982;19(1):6-18
- Dallman, P. Manifestation of iron deficiency. <u>Seminars in Hemato</u>. 1982;19(1):19-30
- Danforth, D.N. Obstetric and Gynecology. 4th ed. Philadelphia: Harper & Row Publisher, 1982.
- De Maeyer, E.M., Adiels-Tegman, M. The prevalence of anemia in the world.

  World Health Stat. Q. 1985;38:302-316
- Dulyapiree, Y. The result of prevalence and intensity of intestinal helminthiasis in lower-southern part of Thailand. Songkla Med. J. 1982;4:1-7
- Edgerton, V.R., Bryant, S.L., Gillespie, C.A., et. al. Iron deficiency anemia and activity of rats. J. Nutr. 1972; 102:381-400
- Gardner, G.W., Edgerton, V.R., Senewiratne, B., et. al. Physical work capacity and metabolic stress in subjects with iron deficency anemia. Am. J. Clin. Nutr. 1977;30:910-917
- Gorby, L., Areekul, S. Iron supplementation in Thai fish sauce. <u>Ann. Trop. Med and Parasito</u>. 1974;68(4):467-476
- Korananta-Kul, O. Incidence of anemia in pregnant women at songklanagarind Hospital. Sonkla\_Med. J. 1984;2(3): 239-244.
- Linpisam, S., Thanangkul, O., et. al. Iron deficiency in a Northern Thai population: The effects of iron supplement studied by means of plasma ferritin estimations. Ann. Clin. Biochem. 1984;21:268-274
- Na-Nakorn, S., Wasi, P., Pootrakul, P. Hematocrit value and prevalence of iron deficiency among 877 women at Siriraj Hospital. Siriraj Hosp. Gaz. 1973; 25(10):1691-1700

- Nateewattana, N., Sivasomboon, C. The relationship between hookworm infestation and the level of serum iron. Bull. Chiang Mai Med. Tech. 1972;5(2):117-121.
- Nutacharat, U., et. al. Nutritional anemia in Thai farmer. J. Nutrition 1973;3(2):52-58
- Oski, F., et. al. Effect iron therapy on behavior performance in non-anemic, iron deficient infants. <u>Pediatric</u>. 1983;71:877-880.
- of iron deficient infants. J. of Pediatr. 1978;92(1):21-25
- Panich, V. and Pompatkul, M. Serum ferritin level in School children who live in urban and rural areas of Southern part of Thailand. Songklanagarind

  J.Sci-Technol. 1981;3(3):188-232
- Pollit, E., et. al. Iron deficiency and educational achievement in Thailand. Am. J.Ch. Nutr. 1989;50:687-697.
- Ratanabanangkoon, K., Hathirat, P., Areekul S. and Issarangkura, P. Prevalence and ethiology of anemia in Children at Ramathibodi Hospital. J. Med.

  Ass. Thailand 1980;63(12):639-645
- Rimdusit, S. Haematocrit values in pregnant women. Siriraj Hosp. Gaz. 1975; 27(2):1089-1102
- Sirijerachai, C., et. al. An analytical cross-sectional study of anemia in rural area, Amphoe Phon, Khon-Kaen. J. Med. Ass. Thailand. inpress.
- Srisupandit, S., Pootrakul, P., Areekul, S., et. al. A prophylactic iron supplementation of iron and folate in pregnancy. Southeast Asian J. Trop. Med Pub. Hlth. 1983;14(3):317-323.
- Srotongkul, N. and Naksukskul, B. Qualitative Enzyme-Link Immunosorbent
  Assay (ELISA) for ferritin as a screening procedure for Iron deficiency
  and iron overload. Siriraj Hosp. Gaz 1986;38(4):275-269

- Sundharagiati, B., Kulpradith, S., Petchkla, S., et. al. Iron deficiency anemia in Bangkok, Thailand: Anemia in pregnancy; Ann. Trop. Med. and parasitology 1967; 61:35-39.
- Suwanik,, R., et. al. Iron status of Thai population in Bangkok and Villagers in Northeastern Thailand. J. Med. Ass. Thailand 1981; 64(6):283-287
- and Tuntawivoon, M. Iron fortification trial: results of two years trial in Northeastern Thailand 1986;18-23
- Tintara, H., Kor-anantakul, O. and Pornpatkul, M. causes of anemia in pregnant women in Hat Yai, Songkla. Songkla Med. J. 1988;6(3):268-276
- Vachananda, R. Biochemical survey of blood and urine. <u>J. Med. Ass. Thailand</u> 1963; 46(11):669-683.
- Vajarasathira, S. and Harinasutta, J. Incidence, destribution and Epidemiology of seven common intestinal helminths. J. Med. Ass. Thai 1957; 40(5);310-339.
- Valyasevi, A., Benchakam, V., and Dhamamitta, S. Anemia in pregnant women, infant and pre-school children in Thailand. J. Med. Ass. Thailand. 1974; 57(6):301-306.
- Viteri, F.E., and Torun, B. Anemia and physical work capasity. Clin. Haemat. 1974; 3:609-626.
- Wasi, P., et. al. Hematocrit values and anemia in Thai populaton. Siriraj Hosp.

  Gaz 1973; 25(4): 584-597
- \_\_\_\_\_\_, prevalence of anemia in Thailand. J. Med. Ass. Thailand 1972; 55(12):685-688.

## APPENDIX 1

## Data Sheet

NAME			ODE	NO_					
AGEYEARS			ATE.	OF	SURV	VEY	d/	m/	У
OCCUPATION									
MIGRATION : ( ) MIGRATE	(	) NC	M MC	GRA	ΓE				
MARITAL STATUS									
METHOD OF BIRTH CONTROL				DI	JRAT:	ION_			_Mc
NUMBER OF OFFSPRINGS									
AGE OF THE YOUNGEST OFFSPRINGS				YE	ARS				
MENSTRUAL HISTORY :									_
DURATION OF MENSTRUATION FROM MEN	IARCH!	E				Y	EAR	S	
REGULARITY OF MENSTRUATION : ( )	REGI	ULAF	₹	(	)	IRRE	GUL	AR	
DURATION OF MENSTRUATION PER CYCL	E				1	DAYS	•		
NUMBER OF SANITARY PADS USED PER	CYCL	E					_		
TYPE OF DIET									
( ) VEGETARIAN	(	)	NON-	-VEG	ETAR	IAN			
( ) CLAY EATER	(	}	NON	CLA	Y EA	TER			
HISTORY OF UPPER GI HEMORRHAGE									
( ) YES	(	)	NO						
HISTORY OF HEMORROID HEMORRHAGE									
( ) YES	(	)	NO						
HISTORY OF ASPIRIN OR NSAID INTAK	KE								
( ) NO HISTORY OF USE	Ξ								
( ) OCCASIONAL USE									
( ) REGULAR USE									
LABORATORY DATA									
o HEMATOCRIT									
1 % 2.			_ %	AVE	RAGE				0/0
o FERRITIN			0.	ıp%					
O STOOL EXAM FOR HOOK WORM									
AGG COUNT				_ /g	/fec	es			
o STOOL OCCULT BLOOD									
( ) POSITIVE			(	) NE	GATT	VE			



APPENDIX II
RECOMMENDED DAILY IRON ALLOWANCE (RDA)

		THAILAND	WHO
	Age (years)	Iron (mg)	Iron (mg.)
Children	1 - 9	4.kg BW	10
	10 - 12	8	10
Boys	13 - 16	11	18
	17 - 19	11	9
Girls	13 - 16	16	18
	17 - 19	16	24
Men	20	6	9
Women	20 - 49	16	28
	50	6	9
Pregnant &	lactating Women	26	28

APPENDIX III
WHO CRITERIA FOR DIAGNOSIS ANEMIA (1968)

HEMOGLOBIN (g)	HEMATOCRIT (%)
11	33
12	36
13	39
12	36
11	33
	11 12 13 12

# APPENDIX IV INFORMED CONCENT

I am completely informed about the study objective and procedure. I agree to answer the question being asked by the interviewer and permit to have venous blood extraction. I understand about the side effect that may happen clearly

(patients name)



### **VITAE**

Kanchana Chansung was born on the 29<sup>th</sup> January 1962 at Loei Province, Thailand. Graduate degree of Bachelor of medicine from Faculty of Medicine Siriraj Hospital, Mahidol University in 1986. Had been working at Srinagarind Hospital in Khon-Kaen for one and a half year before started training for Thai Board of Hematology in 1987 and graduated in 1990 after that working as the staff of Hematology Unit, Department of Medicine, Faculty of Medicine, Khon Kaen University. Have been working in the project of case-control study for etiology of aplastic anemia as the collaborated investigator with Prof. Surapol Issaragraisri of Siriraj Hospital for almost three years. The study is now on the process of data collection.

Kanchana Chansung studied in the course of Clinical Epidemiology of Thai-CERTC at Chulalongkorn University since June 1992 funding by the Rockefeller Foundation and expect to recieve master degree in 1994. At present working as the staff of Hematology Unit, Department of Medicine, Faculty of Medicine, Khon-Kaen University.