

CHAPTER IV

RESEARCH QUESTIONS AND OBJECTIVES

RESEARCH QUESTIONS

1. Primary research question

What is the prevalence of iron deficiency anemia among non pregnant menstruating women aged between 15 and 49 years who live in underdeveloped area of Amphoe Ban Fang Khon Kaen Province, Thailand.

2. Secondary research Question

What are the factors associated with iron deficiency anemia among this group to population ?

RESEARCH OBJECTIVES

1. To determine the prevalence of iron deficiency anemia and iron status of the non-pregnant woman who is in the reproductive period and live in the underdeveloped area of Amphoe Ban Fang, Khon Kaen Province, Thailand.

2. To identify the factors which are associated with iron deficiency anemia among this population using cross sectional study.

3. To determine the high risk subgroup among this population who may need iron supplementation.

HYPOTHESIS

1. Prevalence of iron deficiency anemia among the non pregnant women in reproductive age group who live in poorly developed villages of Amphoe Ban Fang Khon Kaen Province, Northeastern Thailand is high.

2. The factors associated with high prevalence of iron deficiency anemia in this population are :

- age : prevalence of iron deficiency anemia increasing by age of subjects
- menstrual history : amount of blood loss by menstruation determine by regularity of menstruation, amount of blood loss/cycle and duration of having menstruation; effect iron status of the subjects.
- method of birth control : the subjects who use IUD's for birth control have higher risk of iron deficiency.
- type of diet : the vegetarians have higher prevalence of iron deficiency than the group that take normal diet.
- number of offsprings and age of the youngest offspring : prevalence of iron deficiency anemia increasing by number of offsprings but decreasing by age of the youngest offspring.
- history of aspirin intake : the group which takes aspirin more frequently will have higher chance to have gastrointestinal bleeding from gastritis and have higher prevalence of iron deficiency anemia.

- history of hemorrhoid and gastro-intestinal bleeding : the group who had history of hemorrhoid or gastro-intestinal bleeding have higher prevalence of iron deficiency anemia
- Hook worm infestation : the group which has hook worm infestation will have higher prevalence of iron deficiency anemia, severity of hook worm infestation correlated with severity of anemia

ASSUMPTION

- Anemia : the subjects whose hematocrit is less than 36% was considered as anemic patients.
- Iron Deficiency : the subjects whose serum ferritin is less than 15 ng/ml was considered as iron-deficient patients.
- Iron deficiency anemia : the subject whose hematocrit was less than 36% and serum ferritin less than 15 ng/ml was considered as iron deficiency anemic patients.
- Duration of menstruation : duration of menstruation per cycle.
- Regular menstruation : have menstruation every 28-35 days
- Irregular menstruation : do not have menstruation regularly every 28-35 days.
- Vegetarian : do not eat any kind of animal protein including egg and milk for at least 3 years

- Aspirin or NSAID intake

No use : no history of use

Occasional use : use only when have fever or muscle pain .

Regular use : use regularly at least 1 pack or tablet per day without definite indication.

- Hook Worm infestation :

Non = no hook worm egg

Mild = presence of hook worm eggs < 2,000/g.faeces

Moderate = presence of hook worm eggs 2,000-7,000/g.faeces.

Severe =presence of hook worm egg > 7,000/g.faeces.

- Fever : body temperature more than 37.5o C by oral route.

- Migrate : move to work in the big city more than 3 months per year within 3 years.