CHAPTER – VI
SUMMARY, CONCLUSIONS AND
RECOMMENDATIONS.

This chapter deals with the summary, major findings, conclusions, implication, limitation and recommendations of the study.

SUMMARY

The present study was a cross sectional community based study on Iron Deficiency Anemia among the tea garden women of Sonitpur District, Assam.

Objectives of the study:

- To assess the prevalence of Anemia among the tea garden women.
- To study the prevalence of Iron Deficiency Anemia among the tea garden women of Sonitpur District, Assam.
- To determine the risk factors of Iron Deficiency Anemia among the women of tea gardens of Sonitpur District, Assam.
- To correlate Hb% and serum iron among the tea garden women.
- To associate the Prevalence and risk factors of Iron Deficiency Anemia among the tea garden women with their selected demographic variables.

The assumptions of the study were:

1. Tea garden women may have mild –moderate level of prevalence of anemia.
2. Tea garden women may have mild –moderate level of prevalence of iron deficiency anemia.
3. Inadequate dietary intake may be one of the risk factors of iron deficiency anemia.

Extensive review of literature, professional experience and expert’s guidance from the medical officers of tea garden health centres, community health nursing specialist led the investigator to design the methodology and develop the tools for data collection.

A cross sectional community based study design and purposive sampling technique was used to select the study sample. A total of 202 samples were selected purposively from two tea gardens of Sonitpur District under Tezpur subdivision. A structured interview schedule used to collect data to assess the prevalence and risk factors of iron deficiency anemia. WHO color scale was used to check the Hb% and laboratory test was performed to assess the serum iron and presence of worms in the stool.

The investigator developed two tools to collect the data. The first tool – diagnostic check list, to assess the prevalence of Iron deficiency anemia among the tea garden women had two sections. Section A and Section B. Section – A dealt with demographic variables such as age, education, marital status, occupation, average family income, type of family, personal habits like – alcohol consumption, smoking, betel nut, tea, environmental sanitation like – housing condition, ventilation, lighting, kitchen, water supply, lavatory, refuse disposal, drainage, surrounding, cattle shed, poultry, piggery, total 23 items.
Section – B: dealt with diagnostic check list on general sign and symptoms of Iron deficiency Anemia and report of blood investigation- Hb% and Iron profile result of stool sample. The second tool – an inventory check list, to find out the risk factors of Iron deficiency anemia comprised of two sections. Section A comprised of history of the tea garden women like – Personal, menstrual, pregnancy, lactation, abortion, illness, medication history. Section B comprised of dietary history like – 24 hours dietary recall and dietary habit.

A pilot study was conducted with 35 tea garden women from Durung tea estate on December 2011. The main study was conducted from January 2012 to December 2013 with 202 tea garden women in the sample in two tea gardens of Tezpur subdivision of Sonitpur District. Then obtained data were analyzed by using descriptive and inferential statistics.

MAJOR FINDINGS OF THE STUDY:

The major findings of the study are-

- Majority of the subjects (37.65%) of the study subjects were aged between 22-29 years.

- Considering educational status majority (58.45%) of the subjects found to be illiterate.

- Majority of the subjects (52.4%) were daily wage laborer.

- More than (80.19%) were Hindu, (18.31%) of the subjects were Christian and only (1.48%) were Muslim.
• 69.3% of the study subjects were married (28.7%) were unmarried, (1.48%) were widow and only (0.49%) was separated.

• With respect to type of family, majority 136(67.3%) of the subjects were from Nuclear family.

• Considering family income (87.1%) of the subjects had income of <Rs1589 per month and (12.8%) of the subjects had income of Rs 1590-4726 per month.

• Maximum (93.5%) of the women did not consumed alcohol, (54.9%) of the women chewed betel nut and tobacco , (92.5%) consumed tea.

• With respect to the housing condition (37.12%) they live in their own houses. Majority 111(54.95%) of the subjects had only single room. (59.40%) had pucca houses.

• Considering ventilation of the houses (61.38%) of the subjects had adequate ventilation in their houses.

• Majority (84.1%) of the houses had adequate lighting in their houses the sources of lighting for majority (89.1%) of the subjects were electricity.

• 59.9% of the subjects had separate kitchen and only (38.61%) had outside kitchen facilities.

• Majority (78.71%) of the subject’s kitchen size were adequate. (25.74%) of the subjects had used kerosene as a fuel.
• Regarding water facilities (95.04%) of the subjects had adequate water facilities. The main source of water (81.18%) of the subjects was well. Water storage facilities (98.63%) of the subjects were hygienic.

• Considering lavatory facilities majority (71.28%) of the subjects had lavatories in their houses. 68.75% of the subjects had bore hole latrine in their houses.

• Majority 195(96.53%) of the subjects were hygienic. Refuse disposal method, majority 120(59.40%) of the subjects were open dumping.

• 88.11% of the subjects had open drainage system. Regarding cleanliness of the drainage 98.01% of the drainage looked clean.

• 81.1% of the surrounding was cleaned.

• Majority 60.39% of the subjects did not have cattle shed in their houses.

• 54.45% of the subjects had poultry in their houses.

• Majority 74.75% of the subjects did not have piggery in their houses.

• Majority of the tea garden women, 87.12% of them were anemic according to WHO color scale estimation. The 5% Confidence Interval (CI) for the mean hemoglobin level: Mean hemoglobin level \pm (Critical value of Z at 5% level of significance) \times S.E. (Mean) = (9.029, 9.446).

• A considerable number (58.91%) were reported anemia according to the laboratory report of serum iron.

• A considerable number 58.91% were reported iron deficiency anemia according to the laboratory report of serum iron. The 5% Confidence
Interval (CI) for the mean serum level: Mean serum level ± (Critical value of Z at 5% level of significance) X S.E. (Mean) = (48.271, 62.818)

- Considering the risk factors of iron deficiency anemia dietary intake was found to be (70.29%) worm in stool (19.80), personal history like irregular bowel habit (17.82%), menstrual history (15.34%), lactation (12.35), medication history (10.89%), illness (4.45%), abortion (2.47%), and pregnancy 0.

- Prevalence of iron deficiency anemia reflecting a high level of association with demographic variables like education and consumption of tea.

- Age, literary status, occupation, family income, family type, consumption of alcohol, betel nut and tobacco chewing is not associated with prevalence of iron deficiency anemia.

- Selected risk factors like - diet, medication and bowel habit was in association with prevalence of iron deficiency anemia.

- Risk factors like menstrual history, lactation and worm in stool was not associated with prevalence of iron deficiency anemia.

Tea garden women were deficit of dietary intake. Majority of them consumed only 2 times meal which was not sufficient to them according to the recommended dietary allowances.

The optimal control strategy for iron deficiency anemia should have a holistic approach which includes the alleviation of poverty among tea
tribes, the empowerment of women in the tea garden areas and the provision of a safe environment with adequate health care services.

Many women in the tea garden areas were not aware about day to day happenings of outside world. They were far away from globalization, present economic condition, market price, health care facilities etc. It is the responsibility of the health agency and also community health nurse to take steps to conduct health education programme and make tea garden women aware of the possible complications and problems may arises if they are deficient of iron in their diet. The nurse should also demonstrate how to prepare iron rich diet at home. The health promotion of tea garden women in a tea industry in short could be maintained by educational training.
CONCLUSIONS

The present study examines the prevalence and risk factors of iron deficiency anemia among the 202 tea garden women of Sonitpur District, Assam based on sample data. The study was successful in unveiling important and significant facts regarding the socio-demographic characteristics, prevalence and risk factors of iron deficiency anemia. It was found that majority samples 37.65% of the study subjects were aged between 22-29 years. Among the samples 69.3% were married. Majority 58.45% of the subjects found to be illiterate and subjects 52.4% were daily wage laborers. Highest number of samples were low socio economic class.

This study reported that 87.12% of the samples were anemic according to WHO color scale estimation. According to laboratory report 65% were reported anemic. The study found that the tea garden women had moderate prevalence of anemia.

The study also elicited the overall prevalence of Iron deficiency anemia. According to laboratory report of serum iron 58.91% were iron deficiency anemia.

As far the risk factors of iron deficiency are concerned the main risk factors of Iron deficiency anemia was found to be diet, followed by worm infestation as per laboratory reports of stool examination.
As contributors to a major revenue earning industry, tea laborers of Assam are apparently an asset for the state. But it is seen that due to illiteracy they lead a very poor and unhealthy life style.

Longer duration of duty hours were the main factors for inadequate dietary intake by the women. They have to work for 8 hrs a day in the tea garden areas. According to the findings, majority of the women were daily wage laborer, so they were constantly busy with picking and plucking of tea leaves. The main market for eatables was situated at a distance of half an hour walk from the tea garden areas, the women were unable to go to the market after duty hours. Tea garden management provides weekly ration but they provide only rice and atta (wheat) which does not fulfill all the nutritive requirements of a woman. The daily wages of a woman is also very less as compared to the other laborer of outside the garden. As the tea garden women have a big family, the wages were not sufficient for them to afford food, education and other basic amenities together.

The study also found that majority of the women was illiterate. Low socio economic condition, negligence of women in the society, early marriages were the main reason for illiteracy. Illiterate women were not aware about their own health as well as their children and family members. The healthy food habits were not present among them. Personal hygiene of the tea garden women were not maintained properly and majority of the women had thin body built structure. The amount of food they consumed was not sufficient according to the recommended dietary allowances.
Even after 67 years of independence, the tea garden women mostly depend on the gardens for their survival. The women lived on minimum subsistence and poor health conditions throughout the colonial period which further isolated them from the larger communities.

Tea tribe people in the state belong to low socio economic status and they are unable to afford their food and education of their children. As a result they are deprived of nutritious diet and which leads to iron deficiency anemia among the tea garden people.

The tea garden women still live a life of segregation. As a result they lack the opportunity to learn from the outside world.

It is the duty of tea industry as well as government to take certain measures to uplift the status of tea garden women. Government and tea garden management can jointly plan for educating the tea garden women on health related matters.

Regular health education will definitely improve the standard of living among the tea garden women. Community health nurse to take steps to conduct health education programme and make tea garden women aware of the possible problems which may arise if they are deficient indifferent nutrients in their food.

One of the most important nutrients is iron. If any woman is deficient of iron in the blood she will feel tired very easily and not able to concentrate her daily duty and other household activities. So maintenance of health of tea garden women are very essential. The health promotion of tea garden women in tea industry in short could be maintained by educational training.
IMPLICATIONS

The implication drawn from the study is of vital concern for nursing service, nursing education and nursing administration.

Nursing service

The occupational health nurses must involve in the preplacement examination of the workers, as it is the foundation of an efficient occupational health service. Occupational health nurse is also responsible for periodical screening to detect the occupational diseases. Occupational health nurses can carry out health education programme on cause, prevention, spread and therapeutic management of iron deficiency anemia. Role of occupational health nurse in various aspects could be established and strengthened to deliver better occupational health services.

Nursing administration

Nursing administrator must involve in the policy making at the local level i.e., in the industrial areas. Human resource development of the industries should design all intervention programmes for all the employees, especially in decision making. The nurse administrator should also influence legislation and regulation with expanded state involvement, which will have an immediate impact on the practice of occupational health nursing. Placement of occupational health nurse in industries may enhance the health and well-being of tea garden workers.
Nursing education

Nursing education should offer short term continuing education programme for occupational health nurses so that they can regularly reinforce and motivate the workers to come for periodical check-up and diagnose their problems at early stage.

RECOMMENDATIONS

➢ A similar study can be conducted with larger sample size covering more districts of Assam for better generalization.

➢ Present study evaluated only iron deficiency anemia. A similar study can be carried out to find out the prevalence of other types of anemia.

➢ The present study was conducted among women between 14-45 years of age. It can be conducted among women of all age groups and more tea garden areas of Assam.

➢ The study reported a high percentage of prevalence of iron deficiency anemia among the tea garden women. An interventional study can be conducted to reduce the prevalence rate.

➢ The findings of the present study reported that dietary deficit was the main risk factor of iron deficiency anemia. A study can be conducted to
assess knowledge and practices regarding balanced diet among the tea
garden women.