REVIEW OF LITERATURE

Nutritional Status

Malnutrition in women can result in reduced productivity, slow recovery from illnesses, increased susceptibility to infections, and a heightened risk of adverse pregnancy outcomes. A woman with poor nutritional status, as indicated by a low body mass index (BMI), short stature, anemia, or other micronutrient deficiencies, has a greater risk of obstructed labour, having a baby with a low birth weight, having adverse pregnancy outcomes, reduced immunity, reduced work efficiency and impaired physical activities.

Sue Rodwell Williams (1990) states : "The nutritional status of persons can be classified into - sound nutrition (a well developed body, ideal weight for height, body composition, good muscle development and tone), borderline nutrition (persons with only a border line nutritional status who can manage their day to day activities); and malnutrition (persons whose nutritional reserves are depleted and nutrient and energy intake are not sufficient to meet day to day needs or added metabolic stress)". The nutritional status of persons can be assessed by certain systematic methods namely, anthropometry, clinical examination, biophysical and radiological examination, functional assessment, laboratory and bio-chemical estimation, dietary assessment and vital health statistics. The nutrition of human beings can no longer be viewed in the narrow and isolated sense. It is intimately involved in broader changes in social care. Thus, nutrition is closely related to both physical and emotional health and longevity of people.

Anemia

Anemia is one of the most important health problems throughout the world (WHO,1991). It is a condition that occurs when the red blood cells do not carry enough oxygen to the tissues of the

body. WHO defines anaemia as a condition in which the Haemoglobin (Hb) content of blood is lower than normal as a result of deficiency of one or more essential nutrients, regardless of the cause of such deficiencies.

Anemia is a broad term applied to the condition in which there is inadequate or defective formation of haemoglobin and defective maturation and formation of red blood cells. Nutritional anemia may be defined as the condition that results from the inability of the erythropoetic tissue to maintain a normal haemoglobin concentration on account of inadequate supply of one or more nutrients leading to reduction in the total circulating haemoglobin. Nutritional anemia is caused by the absence of any dietary essential that is involved in haemoglobin formation or by poor absorption of these dietary essentials. Some anemias are caused by lack of either dietary iron or high quality protein; by lack of pyridoxine(vitamin B6) which catalyses the synthesis of the heme portion the haemoglobin molecule; by lack of vitamin E which affects the stability of the red blood cell membrane. Copper is not part of haemoglobin molecule but aids in its synthesis by influencing the absorption of iron, its release from the liver or its incorporation into haemoglobin molecule. Iron deficiency anemia (IDA) is the most common nutritional disorder in the world. The numbers are staggering as many as 4 – 5 billion people, 66 – 80 % of the world population may be iron deficient; 2 billion people, over 30 % of the world's population, are anemic, mainly as a result of iron deficiency, and in developing countries, frequently exacerbated by malaria and worm infections. It constitutes a public health condition of epidemic proportions. It particularly affects women in reproductive age group and young children in tropical and sub tropical regions. The world bank estimates that the direct contribution of IDA to global burden of disease is 14 disability adjusted life years per 1000 population. It has the greatest overall effect in terms of ill

– health, premature death and lost earning. IDA occurs at all stages of life, but is more prevalent in pregnant women, young children, adolescent girls. The functional consequences are known to occur prior to onset of clinical stage of iron deficiency. Iron deficiency and iron deficiency anemia in adolescence is a major public health problem. Studies indicate that the incidence of anemia in adolescents tends to increase with age and corresponds with the highest acceleration of growth during adolescence **(WHO-1993-2005).**

Prevalence of anemia

Anaemia is the most prevalent nutritional problem worldwide and it is mainly caused due to iron deficiency. Its prevalence is highest among young children and women of childbearing age; particularly in pregnant women (Shah and Gupta, 2002). Iron deficiency anemia is a major nutrition problem in India and many other developing countries. In addition, many subjects have iron deficiency without anemia. The poor bioavailability of iron in the diet considered to be a major reason for the widespread iron. Deficiency (Srikantia, 1883). Poor density and bioavailability of dietary iron from staple foods are the major etiological factors for wide spread prevalence of iron deficiency in India. Iron deficiency anemia affects over 2 billion people in the world. Iron deficiency anemia is the most common nutritional disorder in the developing world. It is the most common cause of mortality and morbidity in India. It has devastating effects on health and physical and mental productivity affecting quality of life. Anaemia an indicator of poor nutrition and poor health with major consequences for the human health, as well as for the social and economic development of a population. Anaemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. It occurs at all stages of the life cycle, but is more prevalent in pregnant women, adolescents and young women. Adolescent girls are at a high risk

for anemia and malnutrition. Inadequate nutrition during adolescence can have serious consequences throughout the reproductive years of life and beyond (Nayar *et al.*, 2007). Very often, in India girls get married and pregnant even before of the growth period is over, thus doubling the risk for anemia (WHO, 2008). The nutritional anemia in adolescent girls attribute to the high maternal mortality rate, high incidence of low birth weight babies, high perinatal mortality and the consequent high fertility rate. Kaur *et al.*, (2006) states in his study that control of Anemia in pregnant women can be more easily achieved if a satisfactory iron status can be ensured during adolescence. According to WHO criteria, the cut off level of the hemoglobin concentration in blood for the diagnosis of anemia is less than 12 g/dl for non pregnant women.

Verma *et al* (2013), conducted a study on "Prevalence of anemia in college going youth in the rural block of a district of Northern India" found that over all prevalence of anemia was 43-76 per cent in rural Wardha and Lucknow to estimate the prevalence of anemia among adolescence girls, found out that the prevalence of anemia in those area was 59.8 percent and 56 per cent (Singh *et al*, 2006)

According to National Family and Health Survey III (2005- 2006), there is high prevalence of anemia in Assam which is 72% and Assam along with Jharkhand top the list.

Table: 1. Classification of anemia as a problem of public health significance.

Prevelence of Anemia	Categories of public health significance
≤4.9	No public health problem
5.2 – 19.9	Mild public health problem
20.0 -39.9	Moderate public health problem
≥ 40.0	Severe public health problem

Source: World wide prevalence of anemia 1993-2005