REVIEW
OF
LITERATURE
Chapter-II

**REVIEW OF LITERATURE**

The review of literature aims to helping the formulation of methodology for research project without which the study would not be relevant. However, there are certain dimensions of this study, which were not proved into by earlier studies on the same topic. An attempt has therefore been made to present a resume of the available literature on the issue relevant to the study.

Devdas and Easwaran (1967); Devdas et al. (1980); Smalin and Grosvenor (2000) poverty is an important cause of food insecurity and malnutrition especially among children.

Kumar et al. (1976), the size of family is an important factor, which influence child's nutritional status. Family size has been found to be positively correlated with prevalence of malnutrition, morbidity among children belonging to poor socio-economic status.

Devdas (1980), it was also reported that in families with less children, calorie and protein content of diet were more than in families with more children. Children belonging to higher income families were heavier taller than those from low socio-economic group.

Devdas (1980) says the educational status and family income influences the child's health status. The children of higher income group and higher parent educational status were generally heavier and longer than those of parents of lower income and lower educational status.

Gupta et al. (1980) reported the various environmental factors influence morbidity pattern which in turn effect nutritional status profoundly.
Devdas (1980) says parental education level was correlated with immunization and health status of young children. Higher the education level better was the nutritional status of children.

Mamaloachi et al. (1980), existing food availability within family, family environment and nature of children were found to have detrimental effect on health status of children contributing to nutritional status in childhood. These factors are influenced by family income level.

Velubergre et al. (1980) reported that risk of malnutrition is greater in low income families.

Velubergre et al. (1983) reported that socio-economic status is correlated with child's health and nutrition.

David et al. (1984) studied significance of breast-feeding over bottle feeding and found a markedly increased risk of severe malnutrition in bottle infants over those fully breasted.

WHO (1985), in children energy needs are associated with the deposition of tissues at rate consistent with good health.

Stoll and Co-workers (1985) reported that the undernourished children are likely to have more high blindness. They may also have prolonged illness with the dysentery and infection.

Kakker (1987) says young children are at more risk of malnutrition which leads to their poor mental and social development reduced work capacity, physical growth retardation etc.

Gopalan Sastri and Balasubramanian (1989) vitamins are organic substances present in small amounts in many foods. They are required for carrying out many vital functions of the body and many of them are involved in
ICMR (1989) RDA are the estimate of intake of nutrients which individual in a population group need to consume to ensure that the physiological needs of all the subject in the population are met.

Matkovic et al. (1990) children require more calcium than adults to meet the skeletal growth demands. Most important utilization of calcium is in the formation of bones. Calcium with other minerals given rigidity and permanence to bones and teeth. Bones to support the body and thus provides a rigid structure. Approximately 100 mg of calcium retained in bones each day and this amount doubles and even triples during peak period of adolescent growth.

Gibson (1990) dietary, laboratory, Anthropometric and clinical methods are used either alone or in combination to assess the nutritional status of the population. These methods involve collection of data of socio-culture variables, food beliefs and food habits, health and vital statistics, immunization of children, nutritional adequacy and dietary intake, Anthropometric measurements, clinical examination for assessing nutritional deficiency and biochemical assessment.

Gibson (1990) clinical assessment is consist of routine medical history and physical examination to detect physical sign and symptoms.

Swaminathan (1990) dietary survey is an essential part of any study of nutritional status of an individuals or groups and gives information about nutrients intake, source of nutrients, food habits, attitude and frequency of food consumption.

Pushpamma et al. (1991) reported that among the different diseases diarrhea and viral disease were found to be highly prevalent among the 1-5 years old children, for every disease the incidence was higher for children of illiterate mothers as compared to those of moderately literate and highly literate mothers.
Kucera and McIntosh *et al.* (1991), large family reduces the amount of resources (time, energy, money) available for each child thus, hindering the social and physical development.

Devdas (1991) says lower incidence of various infection and deficiency diseases among children with birth order less than 3 against children with birth order above three.

Jain, A. (1991) reported the mean mid upper arm circumference of well to do children of Agra city. The result found were 15.75 for boy at 6 years respectively.

Devdas *et al.* (1991) reported higher prevalence of diarrhea and viral diseases among preschool and school going children (5-10 years) in Andhra Pradesh, Karnataka, Kerala, Tamilnadu and Pondicherry.

Swaminathan (1992) says a supplementary food based on a blend of Roasted wheat flour (30 parts)
Green gram flour (20 pars)
Groundnut (8 parts)
Sugar or jaggary (20 parts)

Has been developed by ‘National Institute of Nutrition’ Hyderabad. The food contains about 12.5 per cent protein. A daily supplement of 80 g of the above food (providing 300 K calories and 10 g of proteins) has been found to bring about significant improvement in the growth rate and of and nutritional status of preschool children.

Swaminathan, M. (1992) says a daily supplement of 50 g of the food will provide about 10 g protein and substantial amount of vitamin A, calcium and riboflavin and thus help to make up the deficiencies in the diets of preschool
Wandel and Harmboetesen (1992) found although the working women increase the income of the family but it has negative effect on the child care and feeding.

ICMR (1992) nutrient requirement can be defined as the minimum amount of the absorbed nutrients that is necessary for maintaining normal physiological function of the body. When applied to a group of individuals or a population group, it represents the average value for group.

Pasricha and Thimmayamma (1992) say protein is necessary for building up muscles replenish vital body fluid like blood. Protein is also required for metabolic processes of body is form of enzyme and hormones.

Pasricha and Thimmayamma (1992) stated that fat make palatable. It also help in absorption of fat soluble vitamin and ADEK.

Reddy (1993) says socio-economic status and expenditure pattern of the family are the important determinants of child's nutritional status.

Rahman et al. (1993) summarized and stated that maternal nutritional status determines the status of child nutrition.

Bapat and Aspatwan (1993) nutrition and vitamin A deficiency has been considered as a widespread public health problem among young children of socio-economically backward families in many part of the world often leading to increased incidence of xerophthalmia and malnutrition. In India, situation with respect to nutrition and vitamin A deficiency varies for region to region due to difference in dietary habits and socio-economical status.

Singhal and Swenson (1994) found that child mortality was higher in very young mother and closely spaced pregnancies.

Sachdeve et al. (1994) state that nutritional anthropometry occupied a central role in the assessment of nutritional status of an individual or groups of children particularly in developing countries.
Annual Report (1995) more than half of children were underweight, 59 per cent were stunted and 20 per cent wasted, central and eastern regions had highest malnutrition prevalence in terms of all the three indicators.

Annual Report, Food and Nutrition Board (1995), 86 per cent of children of 3 months age were being exclusively breastfed. However, only 7 per cent children were initiated to bread feeding within one hour after and 27 per cent within one day but after one hour of birth.

Reddy (1996) says family income, total land holding occupation of parents family size, literacy rate of the parents and mothers working status affects nutritional status of children.

Superstitious and taboos concerning food are powerful social factors which influence nutritional status.

Reddy (1996) a number of nutritional deficiency are now know to be prevailing among the children of various age-group, although less than 5 years of age-group is considered to be at greatest risk.

Tuncbilek et al. (1996) says large families were prone to having malnourished children. This could be due to the inability of the mothers to provide adequate care to their young children.

Vijaraghavan (1996) reported that children from rural tribal families belonging to low income group are more vulnerable to vitamin A deficiency.

Thimmayamma and Rao (1996) the dietary habits of individuals, families, communities vary according to socio-economic factors, regional customs and traditions precise information on food consumption pattern of people, through application of appropriate methodology is often needed for assessing the nutritional status of people for elucidating the relationship of nutrients intake.
ICDS Survey (1996) various approaches have been adopted to assess the impact of ICDS on the nutritional status of 0-3 and 0-6 years old children. All have confirmed a decline in moderate and severe under nutrition and increase in the proportion of children with normal or Grade I under nutrition.

Rao and Vijaraghavan (1996) it is most widely used and simplest reproducible Anthropometric measurement for evaluation of nutritional status of young children. It indicates body mass and is composite of all body constituents like water, mineral, protein, fat bone etc.

Rao and Vijaraghavan (1996) reported that MUAC might be useful not only in identify in malnutrition but also in determining the mortality risk in children. It has been reported to correlate with weight, weight for height and clinical sign.

Papatia and Wend et al. (1997), nutritional status refers to the health of an individual affected by intake and utilization of nutrients nutritional status of child depends on money factors such as socio-economic status, socio-culture, environment and maternal factors. Factors affecting nutritional status of children studies related to socio-economic factor. The socio-economic status is defined as a position of person in a society by his or her education and income.

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Mitchell (1997) in developing countries, growth retardation is primarily the result of the synergistic relationship between inadequate food intake and infection.

Mitchell (1997) says adequate protein is essential to support optimal growth in children. For dietary protein to be utilized effectively sufficient energy must be consumed to make amino acid available for protein synthesis.
Mitchell (1997) iron is needed to maintain haemoglobin concentration and to support growth. Its dietary requirement depends on the rate of growth and the efficiency of absorption of iron from food sources.

Pollitt (1997) concluded that children with IDA scored lower on their achievement less than non anaemic children.

Bureau ICMR (1998) in their second repeat survey conducted in 1996-1997. The prevalence of severe malnutrition was 15 per cent in 1-5 year children in 1975 and was found to be reduced to 6-8 per cent. The reduction in prevalence of severe malnutrition was comparatively more significant in ICDS scheme population.

Kapil and Pradhan (1999) says integrated child development services scheme is the largest national programme for the promotion of the mother and child health and their development in the world. The beneficiaries include children below 6 years. Pregnant and lactating mothers and other women in the age group of 15 to 44 years. The package of services provided by the ICDS scheme includes supplementary nutrition, immunization, health education, nutrition and health education and pre-school education.

Kapil, U. and Pradhan, R. (1999), the most important aspect of ICDS package is supplementary nutrition, which seeks to reduce incidence of low birth weight and severe malnutrition as also to bring own mortality and morbidity rates. But Inspite of these efforts the malnourished were estimated at 15.3 and 15.9 per cent in rural and urban areas, respectively.

Kapil, U. and Pradhan, R. et al. (1999), all family in the aanganwadi area are surveyed, to identify low income families.

potential are major public health challenges as poor growth is often associated with decreased cognitive development, mental ability and poor productivity among adulthood.

Stanely et al. (1999) anthropometry involves the external measurement of morphological traits of human being.

Awate et al. (1999) the total prevalence of anaemia in the world is probably about 30 per cent.

Vetert (1999) iron deficiency effecting about one in every these habitant is the most prevalent cause of anaemia in world.

Underwood (1999) iron deficiency anaemia among preschool and young children persists at an unacceptably high rate.

Rao N. (1999) iron deficiency anaemia particularly the moderate and severe forms with hemoglobin level below 10 g/dl has been shown to be associated with several functional abnormalities of health and socio-economic consequences such as decreased cell mediated immune function and consequent higher infective morbidity among children.

Devi and Gurwani et al. (2000), study conducted at Andhra Pradesh concluded that the literate women with higher awareness levels were more concern about their family members. They managed the amount that they earned more efficiently so as to make their families secure with food and nutrition.

Park (2000) clinical evidence suggested that immuno competence is reduced in individual with iron deficiency.

Joshi (2000) minerals are important nutrients. Body needs both micro and macro nutrients calcium is necessary for rapid growth of bones and developing teeth. Iron is necessary for formation of haemoglobin.
Bhatia (2000) says vitamin A helps to fight cold and infections particularly the mucus membrane of the eyes, ears, nose, throat and lungs. It is necessary for the formation of photosensitive pigment. It is also known to prevent kidney stones.

Bhatia (2000) says vitamin C is considered to be most important antioxidant in extra cellular fluid. Its deficiency causes scurvy. Vitamin C is important in wound healing. One of the ascorbic acids main biological function is to help in formation of collage. Vitamin C increases our immune response to infections diseases.

It promotes healthy teeth are relieves fatigue anxiety and depression by assisting in the formation of norepinephrine, an important neurotransmitter.

Stephen and Meharay et al. (2001), studies show an association between anaemia and increased risk of morbidities. It is well known that morbidity rate is 3 to 4 time greater in children with hemoglobin level less than 6.5 g/dl.

Rana and Hussain (2001) says insufficient food will not only result in under nutrition in terms of inadequate weight gain but will also hinder growth. In a study they found that the energy protein, iron and vitamin A intake had significant link with body weight.

Kuser and Praveen (2001) micro-nutrient deficiency of iron iodine and vitamin A and its associates has hazards as another nutritional problem.

UNICEF (2001), vitamin A deficiency has a wide range of effects on the growth and development in the children besides its reduced effectiveness on the immune systems. Even in moderate levels of deficiency. It leads stunted of infections.

Bhagyalakshmi, G. and Vijalakshmi (2002) says among the various developmental programmes launched in India to improve the status of children nutritionally and socio-economically. Integrated Child Development Services
(ICDS) is noteworthy. In ICDS programme, an attempt has been made to integrated all the relevant service of health, nutrition and education and delivers them as a package to children and their mothers.

Sinha (2002) says the average cost of food per beneficiaries was estimated to be 75 paise per day. However, the children who were found severely malnourished were given additional feeding to cost more that is rupees 1.05 per day, financial support for all these kinds of assistance are provided by the state government. The scheme is steadily expanding its supplementary nutrition programme with an ultimate aim of reaching every needy children of under 6 years age group by the turn of century.

Gopalan et al. (2002), diets of the poor income groups are deficient in several nutrients namely, energy, vitamin A, calcium, riboflavin and iron. Dietary deficiency of these nutrients occur more frequently and to a greater degree among the children.

Ramana P.V. and Rao, K.C. (2002) the values of Anthropometric measurement chest circumference of ICDS group were significantly grater than non-ICDS group with few exceptions but lower than the ICMR standards.

Ramana P.V. and Rao, K.C. (2002) observed that the food and nutrient intake in ICDS group was higher through not statistically significantly greater than non ICDS group.


Smolin and Groovernor (2002) says poor quality diet and increased nutrient needs cause malnutrition even in population with adequate food supply.

Geetha, Rama and Venkamma (2002) children had recorded lower values than the NCHS standards, it was apparent that weight deficit was more
pronounced (73.03 – 77.03 % of the standard) than height deficit (84.83 – 86.08 % of the standard) and MUAC (81.79 – 89.44 % of the standard) irrespective of gender in the sample indicating the existing chronic malnutrition.

Haldar, A.; Munsi, A.K. *et al.* (2004) the study revealed that maximum number of cases observed from the school at Bermajur village be due to less iodine content of the soil. Repeated floods might have washed out the iodine content of the soil due to its closeness to river and bay of Bengal. It also might be due to their not using packed salt as a result of poor awareness.

Nirojine Kaur J. (2004) says the result showed that height, weight, chest and head circumference of the sample were higher than ICMR standards for all age groups, while mid arm circumference was lower. Heights and weight were marginally lower than the 50 per cent of NCHS standard weight for age and mid arm circumference for age appeared normal.

Nirojine and Kaur (2004) reported that head circumference were more than the ICMR standards.

Nirojine and Kaur (2004) study chest circumference were also more the ICMR standard.