CHAPTER I

INTRODUCTION

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Whatever was the father of a disease
an ill diet was the mother.

George Herbert. (1660)
CHAPTER - I

INTRODUCTION

Food deprivation, which leads to protein energy malnutrition is an alarming problem of the child population in third world countries. Malnutrition is one of the three main causes of high mortality and morbidity in children under five, the other two causes being poverty and disease. Thus a realistic goal for eliminating and controlling malnutrition is today required. If we could eliminate all deaths caused by severe malnutrition, at least one third of the total can be prevented. The very fact that the majority of children afflicted by malnutrition do not die, that most adults inhabiting the areas involved have not escaped malnutrition of one degree or another, and that there will be survivors of this generation's malnourished children in future, leads us to wonder at the permanent or transitory after effects that may impair the full development of the child.

The basic requirement for normal personality development, in addition to an intact nervous system, includes an undisturbed functioning of psychological processes. Malnutrition does not only effects adversely on the physiological aspect of human body but also leads to malfunctioning of psychological processes.
Malnutrition in early retards brain growth more than severe malnutrition later in life, because the foundation of a sound personality becomes fairly well established during infancy and early years of life (Stoch and Smythe, 1963). It is during these vital years that a child requires total physiological and psychological fulfillment for future fuller development of body and mind. In words of Boerma (1972) "To look at it in the cold blooded way, lives of children are prematurely shortened by malnutrition, which is a proven killer of young children on a horrendous scale and represents a severe economic loss to society."

The vulnerable groups namely children, expectant and nursing women are the ones afflicted most severely by malnutrition and under nutrition. Protein malnutrition during pregnancy results in reduction of available nutrients in the foetus and causes low birth weights and placental weights (Sunderabai, 1983). The milk of the underfed nursing mothers is liable to be deficient in energy and protein (Feriera and Begum, 1968), which in turn produces nutritional deficiency in infants at an early age. (Ahmad and Rahman, 1975).

It is known that due to strong association between nutritional status and income levels, children who run the highest risk of malnutrition are clustered in the poorest socially deprived society (Cravioto et al, 1966, 1967). Even children of the poor generally show normal psychological development at birth, but somewhere around the age
of five or six years they begin to lag behind the upper class. Factors like heredity, environment, and lack of education also play a vital role in this lacking, besides malnutrition. (Raj Lakshmi, 1969).

The combined effect of all the above mentioned causative factors, confirms the broader, psychosocial perspective of the life cycle as described by Erikson (Lewis, 1982) which he called the epigenetic principle, he states that anything that grows has a ground plan and out of this plan the parts arise, each part having it's time of special ascendancy until all parts have arisen to form a functioning whole. Therefore on these lines it can be stated that each aspect of a healthy personality is systematically related to all other aspects; and all these effect on the total development, in a proper sequence of each aspect before it's decisive and critical time arrives.

According to a survey conducted by Indian National Nutrition Monitoring Bureau in 1981, 85% of the children have body weight below the normal standards. Of these, 5% suffered from severe malnutrition (I.C.D.S., Manual, 1984). These malnourished children who constitute the most vulnerable section have a high mortality rate of 120 deaths per 1000 live births (1981 census). Worldwide studies show that nearly one eighth (13%) children die before they reach their first birthday. (The state of the world's children, UNICEF, 1984).

In India 2 to 3% of the pre-school children belonging
to the poor communities suffer from the severe forms of PEM while 60 to 70% suffer from mild to moderate forms, which manifest themselves in causing varying degrees of growth and mental retardation (Gopalan and Vijaya Raghavan 1971). The prevalence of persistant handicapping mental health problems amongst three to fifteen year old children in developing countries is 5 to 15% (WHO Report, 1977).

Lorstad (1974) estimating world wide incidence of malnutrition came to a conclusion that 10 to 15% of the world population as a whole are undernourished and upto half suffer from hunger or malnourishment. Such findings indicate that perhaps 300 million people alive today have suffered some degree of malnutrition early in life.

The values of incidence and estimates are rapidly changing yearly in various ways and a happy trend is noticed as suggested by decrease in Infant Mortality rates. (95 deaths per 1000 births in 1987 - as informed by Dr. A. B. Desai, Ex-Professor of Paediatrics and I.C.D.S. consultant), through personal communication). This can be attributed primarily due to effective government and voluntary nutrition programmes and a general increase in awareness of nutrition amongst the vulnerable population.

In view of this alarming incidence of malnutrition in India as compared to developed countries, government of India and various social and voluntary organizations made efforts to lessen this incidence since mid twenties in form of various health and nutrition programme.
Unfortunately, these schemes did not cater to the social, psychological foundations of the child’s development. May be because the association between malnutrition and psychological variables during this period were not well established by research in India. However, with advancements in information, resources and policy, it was realized by 1974-1975 when the national policy for children was formulated by the planning commission and India’s largest child welfare scheme called "Integrated Child Development Services" was launched on October 2, 1975, that it is necessary to lay stress on the proper mental and emotional development of the child. And thus for the first time psychological foundations have been given a rightful place in child, human and national development.

It will not be an over emphasis to state that the psychological component of the child welfare schemes is well founded on age old dictums like "a healthy mind resides in a healthy body."

A healthy mind can be studied through three aspects of conscious state: Cognitive, Conative and Affective. In order to carry out day to day routine activities in the best possible way, each individual follows a set, options, criteria, methods etc. depending upon his all these three aspects.

Amongst them intelligence plays a vital role, which directs how to perform the best. However to perform intelligently it is necessary to relate the activity with emotional
enrichment. An activity which is devoid of emotional satisfaction is an unwilling activity and hence intelligence is not operated in carrying out such a task.

Any hinderance in the fulfillment of a desired and willing activity requires adaptations/adjustments. If the individual is unable to cope up with the stress of such adaptation, emotional maladjustments begins to show in the form of altered behaviour which we perceive as behavioural problems. An association between intelligence and emotion thus exists however complex they may be.

With time, social patterns and general awareness of the human societies change. These changes necessitate adjustments in one form or the other. The fittest survive since they adapt best. These newer changes which we encounter are sort of additional variables in a statistical mesh of data. Different combinations of these new variables with the pre-existing, leads in to newer perspectives in forms of results and interpretations.

Statement of the Problem:

In the course of carrying out the duties of Psychologist at the Department of Paediatrics, Medical College, Jamnagar, Gujarat, the investigator came across malnourished children who at the time of Psychological assessment indicated an association which can be stated broadly in terms of general performance on the test and the responsiveness to the investigator, during informal conversation with them.
Some inconsistencies from the well known and established associations were observed as a mere feeling which were not derived systematically by any analysis. Further discussions with the medical faculty members on the relation between malnutrition, intelligence and emotional behaviour, prompted the investigator to undertake a systematic and analytic study on the association between these three variables. With a view to relate healthy personality (Intelligence and Emotional aspects) with the critical changes that occur during Protein Energy Malnutrition, the present problem was formulated.

"TO STUDY THE EFFECTS OF PROTEIN ENERGY MALNUTRITION ON LEVEL OF INTELLIGENCE AND EMOTIONAL MALADJUSTMENT."

**Purpose of the Study**

The purpose of this study is -

1. to analyse the effect of PEM on level on intelligence and emotional maladjustment in relation to:
   a) Normal grade of nutrition,
   b) First grade of malnutrition,
   c) Second grade of malnutrition,
   d) Third grade of malnutrition,
   e) Male children,
   f) Female children,
   g) School going children,
   h) Non-school going children.
2. to test various hypothesis which have been constructed on the basis of interaction between independent and dependent variables as stated above, by adopting a factorial, graphical and correlative analytic procedures.

3. to make an attempt in the direction of associating two well known psychological tests, BKIS and CBCL, in an urban slum population of children in Gujarat, in order to highlight their importance in child development.

4. to reduce a recommendation from this study based on the data and results obtained which could be of some use to clinicians, nutritionists, psychologists, psychiatrists etc in dealing with children suffering from mental retardation and emotional upheavals.