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An Empirical Study of Nutritional Status of Aanganwadi Children of Rural Ahmedabad District

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ABSTRACT

India is home to 42% of the world's underweight children and 31% of the world's stunted children (UNICEF 2009). Over half (54%) of all childhood deaths in India are related to malnutrition. Nearly 30% of the global childhood deaths attributed to stunting, severe wasting, and intrauterine growth restriction low birth weight occur in India. Nearly 40% of all low birth weight babies in the world are born in India (UNICEF 2006). To combat this situation The Integrated Child Development Service (ICDS) Scheme was introduced in 33 Blocks (Projects) in 1975 in India which is one of the largest child care programs in the world aiming at child health, hunger, malnutrition and its related issues. Currently the Scheme is operational in 336 Blocks in Gujarat. As on May 2016, 52649 Anganwadi centers are operational in 336 blocks. In total 51.79 Lakhs beneficiaries are covered in supplementary nutrition program out of them 32.30 Lakhs children are 6 months to 6 years (as per wcd.gujarat.gov.in.). Though government is spending lot of money on ICDS program me, impact is very ineffective. The result of various researches in India has pointed that even now, after a long span of implementation of ICDS in Gujarat State, the scheme is not able to fully resolve the problem of poor nutritional status of the preprimary school children. Consequently, the research was undertaken to study the Nutritional Status of preprimary (0-6 year) children coming to Anganwadi in rural area of Ahmedabad District. The present study was conducted to assess supplementary nutrition (SN) activities and its impact on the Nutritional Status on preprimary children. Simple random sampling was used for selection of preprimary children (n-200) and their parents (n-200) coming to 46 Anganwadi Centers (AWCs) in rural area of Ahmedabad District. The investigator used Self-structured questionnaire, Interview schedules, check list, the parameters of Anthropometric measurements and 24 dietary recall method to collect the data. The results revealed that all the ICDS centres were providing supplementary nutrition to pre-primary children who enrolled in the Anganwadi. Most of the mothers had the knowledge about the nutritional status of children and got information from the Anganwadi workers. Moreover the Nutritional impact of ICDS on pre-primary children according to the parameters of Anthropometric measurements found very satisfactory as well as ICDS children's food habit is good and they eat all types of foods like beans, fruit, vegetables etc. Thus, it can be concluded that though some health problems were seen, the overall Nutritional Status of preprimary (0-6 year) children coming to Anganwadi in rural area of Ahmedabad District found satisfactory.

1. Introduction

Today's children are tomorrow's world or tomorrow's father" this slogan is riding a massive wave of concern throughout the world. But children, all over the world are deprived of many facilities. Hunger and malnutrition make them worst sufferers and these pose potential threats to mankind as a whole or to the civilization itself [1]. Nutrition is the cornerstone of socioeconomic development. The nutritional problems are multifactorial with roots in the sectors of education, demography, agriculture and development. Poor and inadequate nutrition leads to malnutrition, morbidity and mortality among children in India. To overcome the mortality and morbidity and to upgrade the nutritional status of children, Government of India, providing health, nutrition and educational services launched a multifaceted program named as Integrated Child Development Services/Schemes (ICDS). ICDS scheme 1 is running for the last 25 years all over India with the main objective of improving the nutritional status of the children under 5 years of age.

2. Objectives of the Study

- To assess the Nutritional Status of preprimary children in rural area of Ahmedabad district.
- To compare the level of Nutritional status of the ICDS &ICDS children in with context of selected variable such as area-rural & parents education, & sex

3. Review of Literature

India has the highest occurrence of childhood malnutrition in the world. According to IAP, for children to be well nourished they need energy from variety of nutrients to lead a healthy and happy life. While adequate food is important throughout childhood, it is crucial during the first five years of child's life. Children are one of the most vulnerable populations who face unusually high threats as they grow. This is seen more clearly in children less than 5 years old. Most brain development occurs before a child reaches 3 years old. In the first three years period of life children develop their abilities to think and speak, learn and reason and lay the foundation for their values and social behavior as adults. At birth a child has got 100

billion brain cells. Most of them cannot connect to each other. These connections are wonders of the human body, depending partly on genes and on the events of early life. Many kinds of experiences affect how young brain develops, but nothing is more important than early care and nutrition [3]. Early childhood malnutrition can have lasting effects on growth and functional status. The inadequate energy and protein intake leads to malnutrition in the form of wasting, stunting and underweight

4. Method

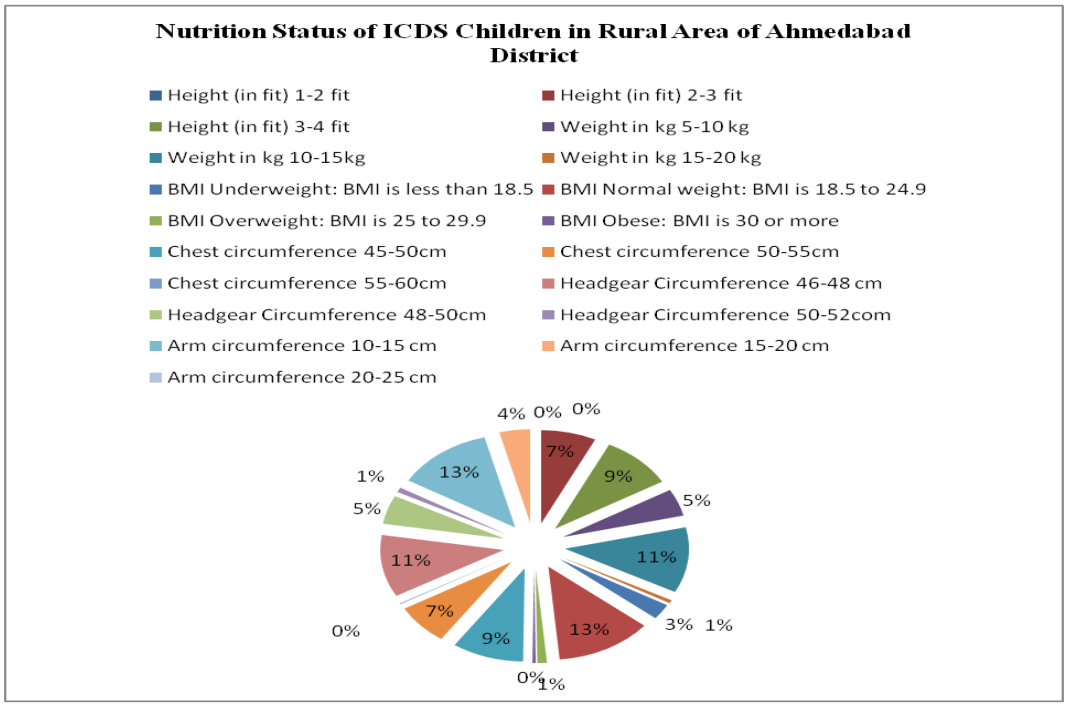
A study was conducted to compare the nutritional status of ICDS children of preschool children in Ahmedabad. Purposive sampling technique was used. Interview schedules, check list and recall dietary method was used to collect the data. The results revealed that all the ICDS centres were providing supplementary nutrition to children, pregnant women and nursing mothers who enrolled in the Anganwadi. Most of the mothers had the knowledge about the nutritional status of children and got information from the Anganwadi workers.

Data shows that all the Anganwadi workers were assessing the nutritional status of children by taking height and weight in Anganwadi. The results also indicated that majority of the mothers whose children did not attend any ICDS centres told that it was not necessary for the children to attend any ICDS centres and did not have any knowledge regarding supplementary foods and nutritional needs of the children. More than 28% of the world's children under the age of 5 years are underweight for their age ranging from 2.9% in the developed countries to 31% in the developing countries.

Because of the size of the population, almost most of the world' malnourished children are to be found in just 3 countries - India, Pakistan and Bangladesh. Universalization of ICDS, with quality improvement, can help to break the vicious cycle of malnutrition and poverty. It is an essential step towards the realization of children's fundamental right to nutrition, health and education. Welfare policy makers designed the ICDS scheme with the aim of reaching all the needy children in the age group of 0-6 year's expectant and nursing mothers and women in the age group 15-44 years with basic child welfare services. The ICDS package includes welfare services of supplementary nutrition immunization, health checkup, health referral, nutrition and health education for both children and mothers and non-formal preschool education for children.

Nutrition Status of ICDS

Assess of Nutrition		ICDS
Height (in fit)	1-2 fit	0
	2-3 fit	104
	3-4 fit	136
Weight in kg	5-10 kg	68
	10-15kg	164
	15-20 kg	8
BMI	Underweight: BMI is less than 18.5	39
	Normal weight: BMI is 18.5 to 24.9	183
	Overweight: BMI is 25 to 29.9	18
	Obese: BMI is 30 or more	6
Chest circumference	45-50cm	136
	50-55cm	102
	55-60cm	2
Headgear Circumference	46-48 cm	156
	48-50cm	72
	50-52com	12
Arm circumference	10-15 cm	182
	15-20 cm	58
	20-25 cm	0



Children are the future pillars of the nation and the future of the nation rests on the hands of the children's health today. The future of the society depends upon the quality of life of its under five children. UNICEF reported that worldwide, more than 150 million under-five children i.e., 25% of the world's children are malnourished. It is now recognized that 53% deaths in under five children in developing countries are attributable to malnutrition As per the NFHS-2 survey report, almost half of children under three years of age 47% were underweight and 46% were stunted. The proportion of children who were severely undernourished was 18% according to weight for age and 23% according to height for age.

Nutritional assessment in the country serves as appropriate data gathering processes to enable accurate planning and implementation of interventions to reduce morbidity and mortality associated with under nutrition. Anthropometric measurements remain the most practically useful means for the assessment of the nutritional status of a population. The use of appropriate anthropometric indicators allows the identification of the nature and extent of protein energy malnutrition in the country [9]. Weight, height and mid arm circumference are considered as the most sensitive parameters for assessing nutritional status of under five children. In Gujarat State, the nutritional status of children among fewer than five is severe malnutrition. Malnutrition studied by growth assessment not only serves as a mean for evaluating health and nutritional status of children, but also provides an indirect measurement of the quality of life of an entire population. Keeping in view the above said, the present study will carried out to assess the nutritional status of fewer than five ICDS and children particularly of rural district of Ahmedabad as no research was found in this area.

5. Scope of the Study

Scope is the area or items under study. All the items in a field of enquiry constitute a "Universe" or "Population" sometimes it is not possible to examine each item in a population and then a sample of population is taken for study. However when the universe is small one, it is no use resorting to sample survey and the entire population is studied.

Selection of Sample:

The sample of the study comprised of following two groups-

Group I: Comprised 200 children in the age group 3-5 years who are not attending the anganwadi centers which mean not only the enrolled children in ICDS centers but also visiting and availing preschool component of ICDS. This group will refer to as the Home Based Group (HBG).

Group II: Consisted of 200 children of the same age group who are not attending the anganwadi centers which mean not only the enrolled children in ICDS centers but also visiting and Availing preschool component of ICDS. This group will refer as Anganwadi Group (AWG). Both the groups will be selected from the similar socio economic settings (i.e rura areas of Ahmedabad District) after matching them on several variables (occupation, income, parental educational qualification, etc) by using standardized tool of socio economic status scale.

For sample selection, the list of the anganwadi centers according to the blocks in Ahmedabad district will be obtained from the social welfare department and ICDS projects head office from which two urban blocks Ahmedabad will be selected. Further, ten anganwadi centers from these sampled blocks will be selected randomly and from each anganwadi, 20 children will be included as sample. Only those anganwadi centers will be selected which are located in urban areas & rural areas of Ahmedabad District where 3-5 years of age of children in ICDS takes place actively with at least twenty children in each anganwadi. For HBG, 200 children (3-5 yrs) who are not attending anganwadi or any other preschool from the same setting as that of anganwadi children will be selected by randomly. These children will be contacted with the help of local person and anganwadi workers in the particular area. The list of children will be prepared and children will be selected randomly till the required sample was obtained.

Variables

1. Area: Rural
2. Sex: Boy and Girl
3. Parent's Education

Parameters to be studied

The nutritional status will be studied of ICDS and Non ICDS children of 3- 5 years of age attending the following parameters will be evaluated-

(a) General Information

About socioeconomic conditions viz-education, occupation, income, sex, family structure etc will be known by using predesigned Performa/questionnaire

(b) Assessment of Nutritional status:

By knowing dietary intake of 3-5 years age of children & comparing it with RDA of ICMR using Nutritive value of Indian Food. Following three methods of assessment of nutritional status will be used for the data collection.

(1) Diet Survey:

Diet survey of 3-5 Years of age of children will be done by 24 hour recall method by using oral questionnaire method.

(2) Anthropometric Measurement

Weight for height and Height for age of each subject will be measure.

(i) Weight for Height:

According to Rao and Vijayaraghavan (1996) and Swami Nathan (2003) body weight is the most widely used and the simplest reproducible anthropometric measurement for the evaluation of nutritional status.

(ii) Height for Age: Height is a linear measurement made up of sum of the four components-legs, pelvis, spine, and skull. Height of an individual is principally a measure of skeletal body tissue (Joliffe & Joliffe)

(III) Head Circumference: The measurement of head circumference is standard procedure to detect pathological condition in children. Head circumference is related mainly to brain size. At birth the circumference of head is that of the chest.

(IV) Chest Circumference: The circumference of the head and the chest are about the same at six months of age. After this the skull grows slowly and the chest more rapidly. In nutritional anthropometry the chest/head circumference ratio is of value in detecting under nutrition in early childhood.

(V) Mid Upper Arm Circumference (MUAC): Mid upper arm circumference at birth in a healthy child is between 10-11cm. Over the first year the increment in MUAC is 3 to 4 cm as the muscles of the arm start to develop. In the preschool Age the increase in MUAC is only one cm.Hence there is not much difference between the MUAC of a 3 year old from that of a 5 year old. So MUAC is an age independent index. The field workers in nutrition in our country have fixed the desirable value for MUAC as 12 cm for Indian preschool children.

The WHO has recommended 14 cm as a desirable value for MUAC for preschool children. Hence in screening malnourished children in a community this method is used with ease. When the value of MUAC is less than 12 cm among 1-5 year olds children, they are designated as malnourished.

(VI) BMI: The Body Mass Index (or BMI) is a way of seeing if your weight is appropriate for your height. The actual calculation is your weight (in kilograms) divided by your height (in metres) squared but it's also easy to read on the chart. BMI can be divided into several categories and generally the higher you're BMI, the greater your risk of a large range of medical problems. As BMI is based on weight and height, by losing weight you will reduce your BMI and put yourself into a lower risk group. A healthy diet, including a balance of food groups, vitamins and minerals, is essential for a long and active life. Keeping it simple, body weight and shape are a balance of energy intake (dietary calorific content) against output (calorific burn from activity & exercise).

BMI Categories

Underweight=<18.5
Normal weight=18.5-24.9
Overweight=25-29.9
Obesity = BMI of 30 or greater

Someone with a BMI of below 18.5 is considered underweight. Whilst some people are naturally slim, being underweight from poor nutrition, or as a result of other disease, can have serious health risks. Illness associated with being underweight ranges from simple tiredness due to inadequate energy intake, through to reduced immunity to infections, anaemia, vitamin deficiencies, thinning of the bones, infertility and heart rhythm irregularities. If your BMI is under 18.5 you should discuss it with your doctor. They will want to make sure you don't have any illness causing the weight loss and then will advise you about how to safely gain weight.

6. Conclusion

The Body Mass Index (or BMI) is a way of seeing if your weight is appropriate for your height. The actual calculation is your weight (in kilograms) divided by your height (in metres) squared but it's also easy to read on the chart. BMI can be divided into several categories and generally the higher your BMI, the greater your risk of a large range of medical problems. As BMI is based on weight and height, by losing weight you will reduce your BMI and put yourself into a lower risk group. A healthy diet, including a balance of food groups, vitamins and minerals, is essential for a long and active life. Keeping it simple, body weight and shape are a balance of energy intake (dietary calorific content) against output (calorific burn from activity & exercise).

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