

STUDY THE ROLE OF INTERVENTION IN NUTRITIONAL STATUS OF PRE-SCHOOL CHILDREN, PREGNANT WOMEN IN INDIA

¹Japjot Kaur, ²Dr. Ankita Shukla

Department of Home Science

^{1,2}Shri Venkateshwara University, Gajraula (Uttar Pradesh) – India

Abstract

This investigation reports the aftereffects of examination of information from NFHS-3 on growth examples and prevalence of under nutrition in children 0-59 months of age when contrasted with WHO 2006 standards for weight for age, height for age and BMI for age. Indian infants start existence with a disadvantage because of poor intrauterine growth; during childbirth, 33% of Indian infants are underweight and wasted, and 20 percent are stunted. Maternal factors associated with low birth weight (LBW, for example, low maternal height and low pre-pregnancy weight can't be altered during pregnancy. Low birth weight can be expected to preterm birth, intrauterine growth impediment or both. Preterm low birth weight neonates require escalated care for survival; mature low birth weight infants get by with essential newborn care.

1. INTRODUCTION

In India 33% of the infants are born with low birth weight however just 12 percent are preterm births. Information from Sri Lanka and Kerala, India in the course of the most recent three decades affirm that with close all-inclusive access to essential newborn consideration, it is conceivable to accomplish low infant death rate in spite of generally high LBW rates in South Asian nations because these neonates are mature [5]. Examination of information on changes in the prevalence of under nutrition as surveyed by height for age, weight for age and BMI for age uncovered some intriguing discoveries. Indian infants start their existence with a lower in weight, height, and BMI. During the initial multi-month, there was no expansion in underweight and hindering rates [1].

Several countries are experiencing a time of epidemiological change with reduced frequency of infectious diseases, child mortality and birth rates, related with a high prevalence of chronic diseases and increment in future at birth. As for nutritional progress, this circumstance likewise brings about diminished prevalence of malnutrition in childhood and enhanced development example of children, a reality that was additionally watched as of late in India. Over the most recent two decades in industrialized countries, this pattern has proceeded with a higher prevalence of obesity and its outcomes, presenting in adults from higher financial classes [2].

2. NUTRITIONAL STATUS OF THE INDIAN POPULATION

Horticultural advancement in the most recent decade has made India independent in real food grains. However under nutrition keeps on being major nutritional issue particularly in rural

populations. While we are amidst fighting these long-standing issues of under nutrition in children and women, a new circumstance has emerged. The World Bank has predicted that coronary illness will turn into the main source of premature passing in India by 2015 and that the most extreme number of diabetic patients in the world will be in India. Not at all like under nutrition, are these ailments less perceived to be associated with neediness.

Clearly, the Indian population is going through a progress stage where subsistence conditions are being supplanted by abundant food yet lessened physical work and in this manner, an understanding of the changing nutritional scene is basic. Recent investigations propose a move in the worldview that life style factors are not liable to clarify dangers of these grown-up ailments yet are associated with an imperfect inutero nutritional environment. Subsequently, a few issues of nutritional essentialness emerge. Right off the bat, it is essential to lessen prevalence of low birth weight. Furthermore, it is hasty to neglect the impact of postnatal under nutrition on grown-up health as it might open up these dangers decided inutero [3].

3. NUTRITIONAL STATUS OF PRE-SCHOOL CHILDREN

Since the mid 90's few creators have noticed the obesity plague influencing creating countries as this change in nutritional status is happening significantly quicker than in created countries. The obesity pestilence rapidly spread to teenagers, school-age children and as of late to preschool children, primarily three years of age. Because of early obesity beginning a few other health issues may emerge in childhood, including hypertension, dyslipidemia, type 2 diabetes and cardiovascular issues, which may hinder the quality of life and abatement future [4].

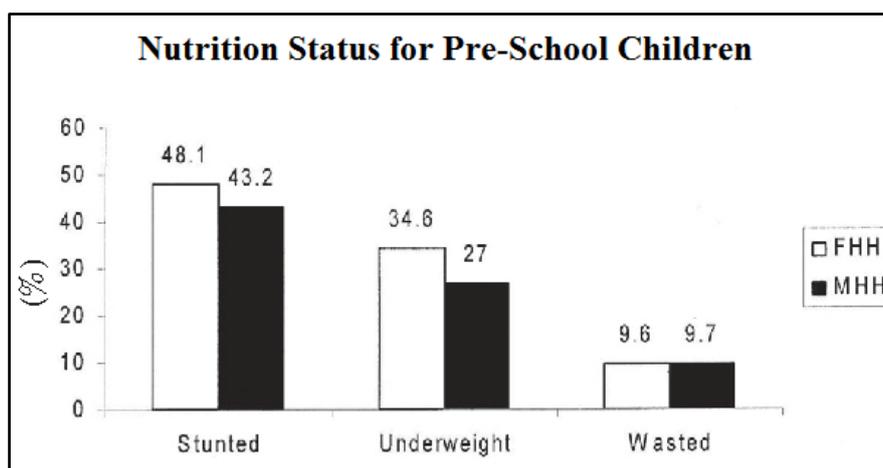


Figure 1: Nutrition states for pre-school children

4. INTERVENTION REGARDING ANAEMIA AND ITS PREVENTIVE MEASURES AMONG PREGNANT WOMEN

Prevalence of anaemia in youthful girls, pregnant women and lactating mother is higher in India when contrasted with other creating countries. According to National Family Health Survey-(NFHS-4) prevalence of Iron deficiency anaemia (IDA) in pregnant women is 50.3% in India and 51.3% in Gujarat. Adequate maternal nutrition learning and dietary practice previously and during pregnancy is important to guarantee positive pregnancy results. As indicated by Nasah and Drouin, Pregnancy and conveyance uncovered the Cameroonian mother to 2% risk of death during their conceptive life, with 43.3% of maternal death coming about because of hemorrhage, 8.3% from pre-eclampsia and 4.2% from placenta suddenness, which are all nutrition related. It was demonstrated that nutrition learning was predictive of progress in dietary propensities and sharpening enhanced their quality of food intake [5].

Standard information on the pregnant women in regards to factors which restrain the retention of iron was 25% which was essentially expanded to 55% after the mediation. Benchmark information of the pregnant women in regards to factors which increment the assimilation of iron was 4% which was fundamentally expanded to 41% after the intercession. Standard learning of the pregnant women concerning treatment of anaemia was 30% which was essentially expanded to 79% after the intercession. Present finding that a larger part of the moms had extraordinary consciousness of the significance of good maternal nutrition previously and during pregnancy and adjusted diet is in opposition to that uncovered (74.0%) of the respondents did not know the primary food groups of the adjust diet and the greater part (57.8%) of them didn't know the importance of food.

5. EFFECT OF NUTRITIONAL STATUS OF PREGNANT WOMEN ON OUTCOME OF PREGNANCY

Nutrition is a fundamental mainstay of human life, health, and development all through the whole life long. Appropriate food and great nutrition are essential for survival, physical growth, mental development, execution, productivity, health, and prosperity. Pregnancy is such a basic stage in a women's life when the expecting mother needs ideal better nature of food that helps the creating embryo. It is all around reported that deficient maternal nutrition results in expanded dangers of here and now outcomes, for example, intrauterine growth limitation, low birth weight, preterm birth, prenatal and infant mortality and dismalness. Then again, over the top admission of supplements during pregnancy can prompt some pregnancy entanglements, for example, preeclampsia and gestational diabetes, microsomal, dystocia and higher prevalence of cesarean segment. Eating great during pregnancy implies increment the measure of the mother's diet. The mother should likewise consider what she eats. The capacity of a mother to give supplements and oxygen to her baby is a basic factor for fetal health and its survival [6].

The occurrence of dietary deficiencies because of dietary propensities and examples in pregnancy is higher during pregnancy than at some other stage of the life cycle. During the

antenatal period, the prerequisite for iron builds a few overlays because of the requests of the developing hatchling and additionally extending maternal red cell mass, and these frequently surpass the accessible supply of iron from the diet and iron stores. The vast majority of the pregnant Indian women have low iron stores. In spite of the fact that dietary iron can be used with compensatory increment, iron retention is inadequate to prevent anaemia in pregnant women, who have an incredibly upgraded need. The typical physiologic iron misfortune during the second and third trimester of pregnancy makes it unavoidable that, without supplemental iron, women will wind up pallid.

Birth weight is the most regularly utilized parameter for passing judgment on intrauterine growth, and it is firmly connected to the odds of survival of the infant. The weakness of low birth weight infants to the expanded danger of cardiovascular sicknesses, diabetes mellitus and crippling stroke in grown-up life has been as of late reported. Lacking micronutrient consumption, especially of iron, vitamin A, zinc, folic corrosive, riboflavin, iodine and vitamin E, is additionally normal in pregnancy. Physiological changes happen in pregnant women. Add up to plasma volume increments up to 50 percent more prominent than non-pregnant women. If the plasma volume does not increment up to the standard esteem, there is a hazard for stillbirth, abortion, and low birth weight babies. The development of blood volume is required to allow the flow of blood through the placenta and allow it to convey supplements and oxygen to these and metabolic squanders far from the baby [7].

Blood volume extends by 50 percent bringing about a reduction in hemoglobin levels; blood glucose esteems, serum levels of egg whites, other serum proteins, and water solvent vitamins. Anaemia during pregnancy is characterized as decreases in hemoglobin centralization of under 11 g/dl, during which plasma volume increments excessively contrasted and red cell mass are bringing about a physiological issue. Because of a decrease in serum egg whites level, extracellular water is gathered. The abatement in water dissolvable vitamin focus makes assurance of an insufficient admission or a lacking supplement state. Serum centralization of fat dissolvable vitamins and other lipid portions, for example, triglycerides, cholesterol, and free unsaturated fat increments. The main side effects of anaemia will be tiredness and pallor.

6. HEALTH AND NUTRITIONAL STATUS OF PREGNANT WOMEN

The maternal mortality in India is the 56th highest on the planet. 42 percent of births in the nation are administered in Medical Institution. In rural zones, the greater part of women convey with the assistance of women in the family, conflicting to the way that the amateurish or incompetent deliverer comes up short on the learning about pregnancy. As indicated by the WHO, intricacies during pregnancy and childbirth are in charge of maternal passing. In India, the proportion for Maternal Mortality Rate to live births has fallen and by 2015, India plans to lessen its MMR to 109. The goal of the investigation is, to evaluate the health and nutritional status of pregnant women of rural anganwadi focus. To evaluate the nutritional status, Anthropometry Measurement, Maternal and Child health Protection Card, Clinical

sign, Hemoglobin, ANC, 53 percent women don't get satisfactory diet though just 8 percent women are getting balance diet.

There has additionally been a noteworthy decrease in the prevalence of colorful nutritional deficiency disorders. It is in this way vital that expanding consideration is presently paid to the nutritional status of the survivors. Late patterns regarding the nutritional status of women and children in India have been broke down and assessed, to address this issue. This paper depends somewhat on published data however more vitally on non-indexed productions and reports, separated from a few foundations and individual researchers in the nation. The data on changing patterns assembled from this information is being presented here [8].

- **Protein Energy Nutrition**

The most remarkable accomplishment on the national nutrition front during the most recent four decades has been the virtual 'expulsion' of intense substantial scale starvations, of the sort that used to destroy sizable segments of the nation's population with troubling consistency for centuries. The individual encounters of pediatricians all through the nation demonstrate that in the previous three decades there has been a noteworthy decrease in serious protein energy malnutrition (established kwashiorkor and outrageous types of marasmus) in hospitalized children. The decay has been especially sensational in connection to established kwashiorkor, which has for all intents and purposes vanished from various locales.

- **Growth of children**

In developing countries, anthropometry, despite its inherent limitations, still remains the most practical tool for assessing the nutritional status of children in the community. In this context, there have been several small scale surveys but the data from these may not be representative of the country as a whole. The two major national surveys which provide data related to nutrition and cover large segments of India's population are:

- The periodic surveys carried out by the NNMB5.7.18 of the National Institute of Nutrition, Hyderabad, and
- the recent National Family Health Survey (NFHS) initiated by the Ministry of Health and Family Welfare, Government of India¹⁹
- **Micro-nutrition**
 - **Vitamin A:** Since preschool children bear the brunt of the deficiency, nationally representative surveys have primarily focussed on this age group. A nationwide survey conducted by the ICMR during 1971-74 showed that 2 per cent cases of blindness were attributable to corneal disease caused by vitamin A deficiency⁹. In the subsequent (1985) national survey of blindness, carried out under the auspices of the Government of India and the World Health Organization (WHO), this figure declined to 0.04 per cent. A careful scrutiny

of the hospital data from Calcutta in fact suggests that the decline in the incidence of keratomalacia had started even before the massive dosage prophylaxis programme had been instituted. A marked decline is evident, especially in the NNMB 'repeat survey'. The slight apparent increase in later surveys is probably related to the different sampling areas which included the relatively poorly performing states of Uttar Pradesh and West Bengal. Interestingly and paradoxically, the overall prevalence of night blindness (1.1 per cent) in this survey was lower than that of Bitot spots (1.9 per cent) in one to five year-old children. Wide regional variations are apparent in some areas.

- **Iron:** Anaemia has been the most common parameter employed to determine iron deficiency. Personal experiences of several paediatricians and obstetricians all over the country indicates a dramatic decline of severe anaemia with oedema in children and women (pregnant and non-pregnant). A limited comparison of studies conducted in similar areas on comparable age and physiological groups at different time periods yielded two such series. There was a significant ($p=0.014$) decline in the prevalence of anaemia (haemoglobin of anaemia (haemoglobin < 11 g/dl) significantly declined from 48.5 per cent to 33.2 per cent. Estimates based on ICMR evaluation in 1984-85 of the National Nutritional Anaemia Prophylaxis Programme indicated that 88 per cent of pregnant women were anaemic with 47 per cent having haemoglobin values below 9 g/dl³³. The latest estimates pertaining to the ICMR multicentric field supplementation trial (published in 1992) on 1,968 pregnant women lowered these estimates to 62 per cent and 17 per cent, respectively'.
- **Iodine:** In Delhi, the goiter prevalence rate in school children declined from 55.2 out of 1980 to 8.6 percent in 1996; the salt iodization program was executed in 1989. The routine surveys led by the Directorate General of Health Services demonstrate a critical decrease in all-out goiter prevalence rate in 17 out of 21 areas from various states in which rehash data was accessible. The size of decay ran from 6 to 35 percent (general qualities over 30 percent in the Himalayan locale and Uttar Pradesh) for rehash surveys performed six to 40 years after the fact. Time arrangement information uncovered a stamped decrease in the rate of neonatal chemical hypothyroidism (NCH) in the highly endemic zones of Uttar Pradesh following salt iodization.

7. DIET IN PREGNANCY AND LACTATION

From conception to exclusive breast feeding (first 6 months) the baby completely depends on mother's nutritional status. If the mother is underweight or not gaining optimal weight during pregnancy the nutrients that are transferred to the baby will be of poor quality and quantity. On the other hand, if the mother is overweight, it will hamper the blood circulation to the uterus and restricts the quantity of nutrients transferred to the placenta and to the baby. There is a considerable increase in the nutritional needs of the mother. On an average the pregnant

women gains about 10 kg in pregnancy. Either low or excessive weight gain are harmful to the pregnant women and as well as the developing foetus (baby).

A pregnant women need to consume about 350 extra calories per day, which translates to one additional meal. The growth and development of the baby is determined by the food taken by the mother. All the nutrients provided to the baby are derived from her food. In the first seven days, baby nourishes with the nutrients from the just fertilized ovum, then the amniotic fluid and later on throughout the pregnancy the baby receives nutrients via the placenta. Even after birth the baby receives all the nutrients for the first 6 months exclusively from mother’s milk. This is followed by gradual introduction of complementary foods after 6 months along with the mother’s milk [9].

Eating healthily during pregnancy will help the baby to develop and grow normally, and will keep them other fit as well. A healthy diet during pregnancy should contain the right balance and combination of nutrients. If the mother is consuming a balanced diet comprising of various food groups, she gets the benefit of various nutrients that are necessary and increased during the pregnancy.

The supplement diet during pregnancy helps to proper growth and development of foetus, so the supplement diet is needed in this period. The graph of supplement diet shows 59 per cent women were not getting supplement diet whereas only one per cent women were getting fruits in their diet. Milk is also essential for the protein requirement in this period but the milk is also not available to more than 70 per cent women. Green leafy vegetable which is very essential for iron folic acid, calcium and mineral requirement were also very less in the diet of pregnant women i.e. only 23 per cent was getting GLV. The result shows that most of the pregnant women were not getting supplement diet i.e. milk, pulse, green leafy vegetable in their daily diet.

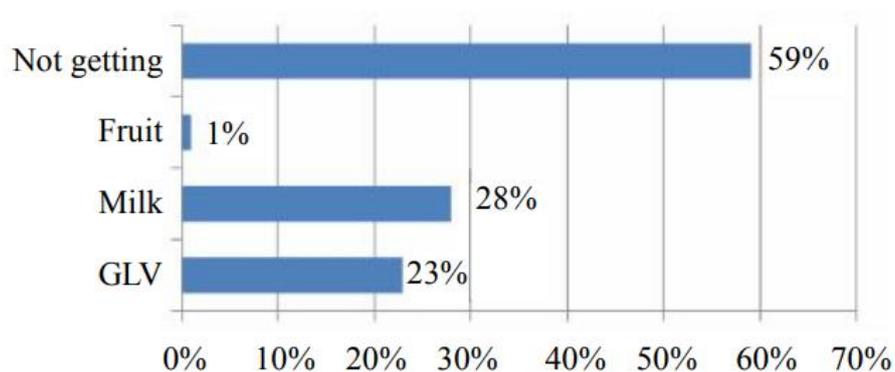


Figure 2: Supplement diet

8. CONCLUSION

Our examination presents a few focuses that ought to be tended to. Despite the fact that an extensive piece of the perceived order frameworks of development and development characterize preschool period from 3 to 6 years of age we examined children from 2 to 6

years of age. Excluding maternal anthropometry is a constraint, since it affects the children's nutritional status. There was huge change in the knowledge in regards to anaemia and its preventive measures among pregnant women after our single instructive session. Most of the moms had extraordinary consciousness of the significance of good maternal nutrition previously and during pregnancy and adjusted.

REFERENCES

- [1].De Onis M, Blössner M. The World Health Organization Global Database on Child Growth and Malnutrition: methodology and applications. *Int J Epidemiol.* 2003;32:518–26
- [2].Greer FR. Groups compare CDC, WHO growth curves.;*Am AcadPediatr News.* 2006 27:1–22.
- [3].Seal A, Kerac M. Operational implications of using 2006 World Health Organization growth standards in nutrition programmes: secondary data analysis. *BMJ.* 2007;334:733
- [4].Ergo A, Gwatkin DR, Shekar M. What difference do the new WHO child growth standards make for the prevalence and socioeconomic distribution of under-nutrition. *Food Nutr Bull.* 2009;30:3–15.
- [5].Prinja S, Thakur JS, Bhatia SS. Pilot testing of WHO child growth standards in Chandigarh : Implications for India's child health programmes. *Bull World Health Organ.* 2009;87:116–22.
- [6]. Victora CG, Adair L, Fall C, Hallal PC, Martorell R, Richter L, et al. Maternal and Child Under-nutrition Study Group. consequences for adult health and human capital. *Lancet.* 2008;371:340–57.
- [7].Vesel L, Bahl R, Martines J, Penny M, Bhandari N, Kirkwood BR. WHO Immunization-linked Vitamin A Supplementation Study Group. Use of new World Health Organization child growth standards to assess how infant malnutrition relates to breastfeeding and mortality. *Bull World Health Organ.* 2010;88:39–48.
- [8].Klasen S. Malnourished and surviving in South Asia, better nourished and dying young in Africa: what can explain this puzzle? Sonderforschungsbereich 386 Discussion paper no. 213, University of Munich, 1999. Available online at: http://epub.ub.uni-muenchen.de/1604/1/paper_214.pdf. Accessed 31 March 2011.
- [9].International Institute for Population Sciences (IIPS) and ORC Macro. National family health survey (NFHS-2), 1998-99. Mumbai: IIPS, 2000.