

# **Effect of Educational Intervention Programmes on the Nutritional Status of Tribal Adolescents in the Aralam Grama Panchayath, Kannur, Kerala**

## **REPORT OF THE MINOR PROJECT**

**Submitted to University Grants Commission**

**Project Number:MRP(S)/13-14/KLKA001/UGC-SWRO**



**By**

**Deepthi Lisbeth K**

**Assistant Professor**

**Department of Home Science,**

**Nirmalagiri College – 670701**

**Kerala-India**

## **CERTIFICATE**

This is to certify that the project report entitled “**EFFECT OF EDUCATIONAL INTERVENTION PROGRAMMES ON THE NUTRITIONAL STATUS OF TRIBAL ADOLESCENTS IN THE ARALAM GRAMA PANCHAYATH,KANNUR KERALA**” is a bonafide work carried out by Deepthi Lisbeth K as part of the UGC minor project number: MRP(S)/13-14/KLKA001/UGC-SWRO.

**Signature of the Head of the Department**

**Name:Dr.Sr.Jessy Varghese**

**Signature of the Principal**

**Name: Dr.N.J.Saleena**

## INTRODUCTION

*A tribe is a group of people connected to one another, connected to a leader, and connected to an idea. For millions of years, human beings have been part of one tribe or another. A group needs only two things to be a tribe: a shared interest and a way to communicate.”*

— Seth Godin, Tribes: We Need You to Lead Us

Article 21 of the constitution of India enshrined the right to live with dignity of a citizen and the former justice Bhagavathi the justice of the then supreme law of land recurrently reiterated that human existence doesn't means mere animal existence but it is something much higher than that. But still the tribal people in India having been leading a pitiable life. Though so many concerted efforts have been taken by the central and state governments, which have been turned like marks on the water. Now a days the tribal people are facing lot of health issues. The malnutrition is one among many health issues they face in their daily life. Due to the nutritional deficiency the child mortality rate has been increased tremendously. Anaemia among adolescents and the premature death of people and premature delivery is very common. The tribal people are mainly aboriginal inhabitants. They have their own distinct culture, life style and food habits. They have been built their life on the natural environment and they depend on natural resources for food. The senseless encroachment to the forest land for the part of urbanisation

and the development of the infrastructure of industries, many of the natural resources have got extinct, and so the deteriorating availability of which has been forced them to eat the available things that sabotaged their traditional healthy nutritional food habits. Unfortunately due to lack of education and have been secluded from the society by the other people they could not come up and acquaint with the new development. In spite of so many concerted efforts were started to uplift the living standard and to formulate the separate strategies for the development of scheduled tribes and scheduled castes in different five year plans, it is now explicitly admitted that the said efforts could make only marginal impact on the socio- economic conditions of the tribes. The only thing can be done to curb the menace of malnutrition is to find out a sensible way to improve their life and to uplift them to the front line of the society.

India is a home to large number of indigenous people, who are still untouched by the lifestyle of the modern world. With more than 84.4 million, India has the largest population of the tribal people in the world. These tribal people also known as the adivasi's are the poorest in the country, who are still dependent on hunting , agriculture and fishing. Some of the major tribal groups in India include Gonds, Santhals, Khasis, Angamis, Bhils, Bhutias and Great Andamanese. All these tribal people have their own culture, tradition, language and lifestyle. (<http://www.ecoindia.com/tribal>).

From time immemorial tribal communities constitute an important segment of Indian society (Manjusha, 2013). Their food intake is influenced by vagaries of nature, with large seasonal variations, depending upon availability of agricultural and forest produce. Several studies have envisaged a close relationship between the tribal ecosystems and their nutritional status. Inadequate health care facilities and ecological degradation further aggravate the situation ((Rao et.al,1996,1994).In every nation, the welfare of the entire community depends on the health and welfare of youth.

According to 2011 census, 253 million adolescent population of India is more than the total population of 18 Western Asian Countries. In that 72% of the total adolescents in India reside in rural areas (181 million). 44 million adolescents belong to Scheduled Caste category, comprising 17% of the total adolescent population of the country and 23 million adolescents belong to Scheduled Tribe category, comprising 9% of the total adolescents in the country. Among youth, 40 and 20 million belong to SC and ST respectively. ([www.censusindia.gov.in/2011...Population/Size\\_Growth\\_and\\_Composition\\_of\\_Adol...](http://www.censusindia.gov.in/2011...Population/Size_Growth_and_Composition_of_Adol...)) .The population projections for India indicate that the number of adolescents will increase from 200 million in 1996 to 215.3 million in 2016 (Rao et al, 2007).

Adolescence represents a window of opportunity to prepare for healthy adulthood. During adolescence, nutritional deficiencies

originating during childhood can potentially be corrected, in addition to addressing their current needs. Healthy eating and lifestyle behaviours should be promoted and practiced, thereby preventing or postponing the iron set of nutrition-related chronic diseases in adulthood. Undernourished adolescents would require further nutrition interventions, besides proper health care, to improve their health and nutrition status. While it is important to improve nutrition of both girls and boys, girls demand more attention because of their reproductive role. (WHO, 2006)

Various tribal populations are among the most underprivileged people since they occupy the lowest part of the socioeconomic strata in Indian society (Mishra, 2005). Iron deficiency is recognized as the major cause of anemia in tribal communities (Reddy et al, 1995; Vyas and Choudhry, 2005) and several studies have reported that deficiencies of micronutrients such as iron and zinc often occur together.

Tribal health is an important aspect of development and progress of the people. Eliminating hunger and malnutrition is one of the most fundamental challenges facing the tribal society. India is having the problem of hunger, malnutrition and poverty. In general, tribal communities in India are neglected, discriminated in terms of income distribution and social status, which tend to have higher rates of under nutrition (Bisai & Mallick,2011,Chakrabarthy & Bharati, 2008).

Nutrition education is an effective way to enhance positive dietary habits and food choices. (Leupker et al, 1996; Rao et al, 2007; Sachithanathan et al, 2012). Several studies recorded that nutrition education or counselling on elder person have a fruitful outcomes (Yoon, 2006; Yim, 2008; Kang et al, 2009; Park et al , 2007; Choi et al ,2007; Bok Hee Kim et al , 2012).

Tribal communities in general and primitive tribal groups in particular are highly prone to diseases. Also, they do not have required access to basic health facilities. They are most exploited, neglected, and highly vulnerable to diseases with high degree of malnutrition, morbidity and mortality. (Balgir, R .S 2004)

The total Scheduled Tribe (ST) population of Kerala is 4, 84,839 constituting 1.45 % of the total population of the State and total Scheduled Caste population is 3039573 (Census of India,2011). Kannur District occupies 83350 scheduled caste people and 41371 Scheduled Tribe people. Aralam Grama Panchayath is the 2<sup>nd</sup> biggest village by area in the Thalassery sub district of Kannur District with a total population of 29000 among which 388 (1% of total poputaion) Scheduled Caste people and 4359 (15% of total population) Scheduled Tribe people . (Census India,2011)

Good adolescent health provides a strong foundation for adult health. Some adolescents' unsafe choices or vulnerable situations can

have serious life-threatening consequences. Alternatively when young people are supported in making positive choices, the benefits to the individual and community are significant, because many life-long patterns of behavior are established during adolescence.( Adolescent Health Tribal Action Plan-2014-18) .

### **Significance of the study**

There is significant amount tribal people are living in Kerala. Most of them are secluded from the front line of the society even after the 67 years of independence and spending millions of amount and after many five year plans. The tribal people do have lot of effective tribal medicines and have indigenous system of medical treatment which is still remaining as unexplored and unexploited knowledge. In a recent study amid of some group of tribal group the population rate has been decreasing slightly, even the rate of dip is low, the rate is decreasing. The pre-mature delivery, malnutrition issues among the adolescence and the increase of death of new born baby has been reported from different part of tribal colonies and recently from Aralam farm where the rehabilitation area declared by the Kerala government. Though lot of reasons may have behind of the above said issue, one major reason is poor nutrition of the tribe. The future and dreams of tomorrow's India rest in the hands of adolescence and hence the health of the said group is very vital for this study. Still the government spending huge amount to them and especially for the adolescence but none of the efforts have



been found significant result. Only a healthy society can give considerable donations to the nation. To a civilised society it is barbarous to abandon a particular community to the backward of the front line of the nation.

A total of 72.8% of tribal population is mainly concentrated in Wayand, Idukki, Kannur, Kazargode, Palakkadu and Trivandrum district in Kerala, (2011 census) of this Muthanga, Attapady and Aralam rehabilitation areas are some of the important areas of tribal communities concentrated and rehabilitated.

Kannur is a District situated in the northern part of Kerala , known as land of looms and lore's. According to the 2011 census Kannur district has a population of 2,525,637. Scheduled caste and scheduled tribe population in the District are comes around 3.3 and 1.64 percentage respectively. ([http://spb.kerala.gov.in/index.php/district-profile kannur.html](http://spb.kerala.gov.in/index.php/district-profile_kannur.html).) Aralam is a large village located in Kannur district, Kerala with total 6904 families .The Aralam village has population of 29328 of which 14438 are males while 14890 are females as per Population Census 2011. Aralam farm is located in this village where one of the largest tribal rehabilitation area is situated with around 3000 families. In spite of countless of social, economical and other sort of rehabilitation programmes by the state government of Kerala, the tribal group of this area still has been subject to different deprivation and oppression based on different amenities such as food, good sanitation, access to drinking

water and electricity . Since no such related studies yet to be conducted in this area this study is highly necessary to be conducted with the following objectives.

**General objectives:** To understand the nutritional status of tribal adolescents and assess the impact of intervention programmes among target groups.

**Specific Objectives:** To

- find out the socio demographic back ground of the tribal adolescents
- Assess the nutritional status of selected tribal adolescents.
- understand the dietary practices prevalent among the sample
- study the nutritional deficiency disorders among the selected population
- To provide educational intervention on nutrition to the samples
- To assess the effectiveness of educational intervention programme on nutritional status.

# METHODOLOGY

The methodology pertaining to the study entitled, “**Effect of Educational intervention programmes on the nutritional status of tribal adolescents in the aralam gramapanchayath,kannur kerala**”, is discussed under the following Headings:

## **I. Collection of background information**

- A. Selection of locale and sample
- B. Collection of data on
  - 1. Socio-economic profile
  - 2. Dietary pattern and lifestyle practices

## **II: Assessment of nutritional status**

- A. Anthropometric measurements
- B. Clinical examination
- C. Dietary assessment
- D. Biochemical analysis

## **III: Intervention programmes**

- A. Ethical concerns
- B. Health and nutrition education

## **IV: Impact of intervention programmes**

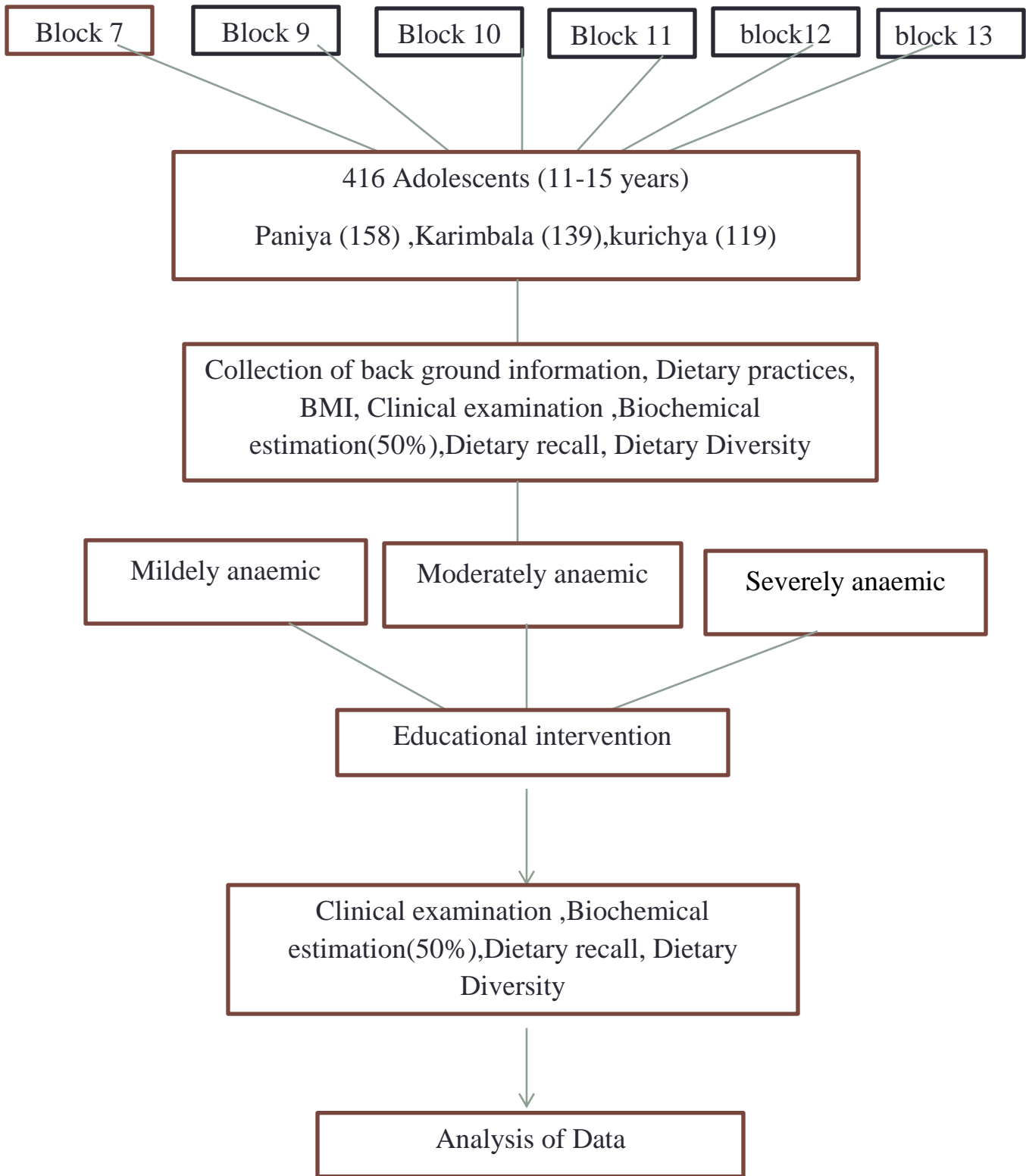
- A. Clinical signs and symptoms of nutritional deficiencies
- B. Dietary diversity score
- C. Mean nutrient intake
- D. Haematological parameters
- E. Knowledge, Attitude and Practice score

## **V. Analysis of data**

The sample for the study was drawn from Aralam Panchayat of Kannur district of Kerala. Universe of the study constitutes Aralam Farm area of the same gram Panchayath. The famed Aralam Farm was originally established by the Government of India in the year 1970. The Farm was subsequently taken over by the SC & ST Development Department, Government of Kerala, to distribute 50% of the area to the landless tribes as resettlement area and the remaining 50% area to run as a Farm for the welfare of tribal to be settled in the Aralam Farm. It is situated in the Aralam Villages of the Iritty Taluk of Kannur District, 56 km away from Thalassery and Kannur Town and 16 km from Iritty Town. Aralam farm area is divided into different blocks and in that 6 blocks were set aside to different tribal communities as resettlement area. Accordingly, 50% area comprising Blocks-7,9,10,11,12, & 13 has been distributed to the landless tribals and the remaining 50% area comprising Blocks-1,2,3,4,5,6, 8 & Central Nursery is now maintained as a Farm. So far 3,304 Adivasi families have been assigned land at the rehabilitation area in the farm. According to the TRDM officials, only about 1,200 Adivasi households were residing in the plots assigned to them. Fear of attacks by wild elephants is the main factor that discourage the Adivasis to reside in their plots.

Major categories of tribal categories residing in this area include Paniya, Karimbala and Kurichya. Among this Paniya occupied a sizable area followed by karimbala and Kurichya. A limited number of other groups like Mavila, Kani and Naika also residing in the same area. So for the present study Paniya, karimbala and kurichya categories were selected. With the help of anganwadi workers, tribal promoters, and ward members households with adolescents of 12-15 years were

identified in each selected category and taken a total sample of 416 which include 158 Paniya households ,139 Karimbala and 119 Kurichya households from six blocks .Background information ,dietary practices, and BMI percentiles were calculated for all subjects.Since this is a rehabilitation area only permanent residents were selected for the study. A nutrition assessment camp was conducted in the study area with the help of anganwadies to assess the nutritional status.



## **SUMMARY AND CONCLUSION**

India is a land of diversity, demography, language, tradition, culture, food habits, clothing and etc. are different from region to region. Some part of our country is rich with natural resources and other wealth. However some other parts of our nation is poor in economically, educationally and socially. The above said reasons affects the overall development of such group of people. The relevent provisions of the fundamental rights of our constitution enshrined to lead a decent life, which demand the state to make sure the minimum standard of life of the citizens. Article 21 of our constitution emphasizes the above said rights.

However years after the independents we could not reach the goal, especially in the tribal areas of our nation, which the constitution focused. Even after so many concerted efforts have been taken by the central as well as state governments the pitiabile condition of the tribals remains unchanged and have been turned like marks on the water. So many reasons may be there behind the issue. In view of this a study has been conducted in Aralam punchayath in Kerala state situated in Kannur district. This area is one of the biggest tribal populous areas in this state. It was decided to conduct a study in a rehabilitation area located in Aralam farm in Aralam panchayath. Six blocks were allotted to them, of the allotted area 'Paniya, Karmbala and Kurichya' were the major

inhabitants there. Of this group 416 adolescents in the age group of 11 to 15 years were selected and nutrition assessment conducted with the help of experts and followed by an intervention programme. Major findings of the studies are summarised as follows.

- A total of 158, Paniya,139 Karimbala and 119 Kurichya adolescents, both boys and girls of 11-15 years were selected as sample as these tribal categories were the major inhabitants in this area.
- Family constellation was similar to the civilized society as majority lives in nuclear families.
- Because of the low educational status parents of the selected sample were agricultural laborers or daily wage employees which in turn reflects in annual income of the families. Half of the selected paniya households and 62% karimbala and kurichya had an annual income below 20000.This may affects their purchasing power.
- Since this is a rehabilitation area basic amenities and facilities were comparatively better to other tribal settlements. With government support they constructed their house and majority (63% paniya,67% karimbala and 65% kurichya) had pucca or semi pucca houses. Road facility is available for majority of families and half of the houses were electrified also. Toilet facility was also



available for majority families but they have a tendency to use open spaces due to lack of awareness.

- Regarding type of diet in paniya category none of them were vegetarians, whereas in karmbala 2% and in kurichya 3% were vegetarians. Majority family had a three meal pattern also.
- Meal skipping was observed among selected sample ,but their anthropometric measurements was normal ,whereas low Hb level was observed among them as this may be one reason.
- Tobacco chewing, alcohol consumption and cigarette smoking are common among tribes. On the contrary to this this only a few sample belong to each category uses tobacco and alcohol.
- Personal hygiene aspects was low among the selected sample. Majority (75%,63% and 73%) of sample from paniya , karimbala and kurichya category did not wash their hands with soap after toilet usage. In addition to that they are not used to wash their hands after outdoor activities.
- Majority of sample from each category had a BMI percentile between 5th to 85th percentile which is considered normal according to ICMR guidelines. Government is providing different food items in subsidy may be the reason for this normal values.

- Hemoglobin status of paniya adolescents showed a serious condition as 68% boys and 56% girls were anemic. Among karimbala subjects also almost same result was obtained as 69% boys and 80% girls were mildly anemic. Mild anemia was prevalent among 70% boys and 53% girls of kurichya category also. So for further intervention programme subjects were selected from this category.
- Clinical signs and symptoms of selected groups revealed symptoms of micronutrient deficiencies. Majority (68% and 61%) of boys and girls from paniya category had pale conjunctiva and 60% boys and 56% girls had rough skin. Half of the sample from both boys and girls have symptoms of angular stomatitis too which is a B complex deficiency. Clinical signs and symptoms of karimbala and kurichya subjects also revealed a same result as paniya subjects.
- Mean nutrient intake of the selected subjects shown a correlating result to biochemical and clinical examinations. Among all the category iron, vitamin C, B complex vitamins, and vitamin A intake was lower than that of RDA recommended by ICMR Intake of macronutrient was comparatively higher but can be improved.

- Dietary diversity score of the sample before education revealed a pathetic picture. Diversity score was medium to low among all the categories which indicate low intake of vitamins and minerals.
- Significant improvement was found in clinical signs and symptoms after educational intervention programme. previously majority of them had micronutrient deficiency symptoms in all the categories but it was reduced to half after intervention programme.
- There was considerable improvement in dietary diversity score after education. It was noted that after education none of them had a score below 4 which is a positive symptom of improvement dietary habits.
- From the studies one thing could be identified that, even they were being provided with so many nutrient supplements by the government through their agencies, found that their Hb levels were low in the laboratory examination. Then after made some interaction with the adolescents group, it can be understood that the awareness of leading a hygienic life is very poor. 't' test was used to test the significance of effect of education on mean intake and Hb levels. The result was significant at 5% level on all micronutrients except in thiamin intake of paniya boys and girls which is not significant.

- Significant improvement was found in Hemoglobin level also after education intervention. Selected subjects knowledge, attitude and practice was also assessed before and after education using a KAP questionnaire. This also revealed a significant improvement in all the category sample.

## **RECOMMENDATIONS AND SUGGESTIONS**

1. In addition to provide basic amenities and food supplements recurrent basic awareness for health hygiene and nutrition to be given to all people irrespective of sex and age with expert. That group can be categorized with respect to age according to the convenients.
2. The tribal people lives with other communities whose life style and living standard were much better than the tribals whom lives as colony there on. The earlier group could acquaint with other culture and grow with them, which helps them to come out from being isolated as their on group. Then they will come up in the front line of our national development.

## References

- Rao H D, Rao M K, Radhaiah G, Pralhad Rao N. Nutritional status of Tribal preschool children in three ecological zones of Madhya Pradesh. *Indian Pediatrics*. (1994).31:635-640.
- Rao H D, Brahmam G N V, Rao M K, Reddy C H, Rao P N. Nutrition profile of certain Indian Tribes. Proceedings of a National seminar on Tribal Development options. PK Samal, ed GB Pant. Institute of Himalayan Environment & Development, Almora, India 1996.
- Rao R D, Vijayapushpam T G, Subba Rao M, Antony G M & Sarma K V R. Dietary habits and effect of two different educational tools on nutrition knowledge of school going adolescent girls in Hyderabad, India. *European Journal of Clinical Nutrition* .(2007). 61. 1081–1085;
- WHO. World Health Organization, Adolescent nutrition: a review of the situation in selected South-East Asian countries. (2006). SEA/NUT/163, New Delhi, Regional Office for South East Asia. V
- Manjusha K .A. Lights and shadows of tribal development in Kerala: a study on the Muthuvan tribe of Edamalakkudy tribal settlement in Idukki district. *The Dawn Journal*. Vol. 2, No. 1, January - June 2013. 274-282
- Mishra N R. Dynamics of caste-based deprivation in child under-nutrition in India. Report Presented at the National Seminar on Development of Scheduled Castes in India: An Appraisal of Implementation of Programmes. (2005) At MPISSR. Ujjain. Madhya Pradesh. January 17-19.

- Bisai S, Mallick C. Prevalence of under nutrition among Kora-Mudi children aged 2-13 years in Paschim Medinipur District, West Bengal, India. *World J Pediatr.*2011;7:31–6.
- Chakrabarty S, Bharati P. Physical growth and nutritional status of the Shabar tribal adolescents of Orissa, India: A Cross-sectional Study. *Malaysian Journal of Nutrition.*2008;14:101–12.
- Balgir R S. Dimensions of rural tribal health, nutritional status of Kondh tribe and tribal welfare in Orissa: a biotechnological approach. Proceedings of the UGC Sponsored National Conference on Human Health and Nutrition: A Biotechnological Approach (Lead Lecture), 12-13th December 2004. Thane. Pp. 47-57
- Leupker R V, Perry C L, McKinla, S M, Nader P R, Parcel G S & Stone E J. Outcomes of a field trial to improve children's dietary patterns and physical activity. *JAMA*(1996) 275, 768–776.
- Sachithanathan V, Buzgeia M, Awad F, Omran R & Faraj A. Impact of nutrition education on the nutritional status. *Nutrition & Food Science.* (2012). 42(3), 173-180.
- Yim K S. The effects of a nutrition education program for hypertensive female elderly at the public health center. *Korean J Community Nutr.* (2008).13:640–652.
- Yoon H J, Lee S K. Effect of home-visit nutrition education for the elderly with high fasting blood glucose levels. *Korean J Community Nutr.* (2006).11:346–360.
- Kang H J, Shin E M & Kim K W. Evaluation of nutrition education for diabetes mellitus management of older adults. *Korean J Community Nutr.* (2009) 14,734–745.

- Bok Hee Kim, Mi-Ju Kim & Yoonna Lee. The effect of a nutritional education program on the nutritional status of elderly patients in a long-term care hospital in Jeollanamdo province: health behaviour, dietary behaviour, nutrition risk level and nutrient intake. *Nutr Res Pract.* (2012)6(1), 35–44.
- Choi Y, Kim C, & Park Y S. The effect of nutrition education program in physical health, nutritional status and health-related quality of life of the elderly in Seoul. *Korean J Nutr.* (2007) 40, 270–280.
- Park P S, Chun B Y, Jeong G B, Huh C H, Joo S J & Park M Y. The effect of follow-up nutrition intervention programs applied aged group of high risk under nutrition in rural area (I) *Korean J Food Cult.* (2007). 22, 127–139.
- Reddy, P. H., M. Petrou, P. A. Reddy, R. S. Tiwary and B. Modell. "Hereditary anaemias and iron deficiency in a tribal population (the Baiga) of central India." *European Journal of Haematology.*(1995). 55: 103-109.
- Vyas, S. and M. Choudhry. "Prevalence of anaemia in tribal school children." *Journal of Humam Ecology.*(2005). 17(4): 289-291.
- Godin S *Tribes: We Need You to Lead Us.* Published by Piatkus Books, London.

<http://www.ecoindia.com/tribal>).

[www.censusindia.gov.in/2011...Population/Size Growth and Composition of Adol...](http://www.censusindia.gov.in/2011...Population/Size Growth and Composition of Adol...))

<http://spb.kerala.gov.in/index.php/district-profile kannur.html>.

<http://www.census2011.co.in/data/village/627256-aralam-kerala.htm>

