

**ECONOMIC ANALYSIS OF NUTRITIONAL AND
HEALTH STATUS OF DALIT WOMEN AGRICULTURAL
LABOUR IN CUDDALORE DISTRICT,
TAMIL NADU**

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ABSTRACT

The purpose of this paper is to study the nutritional and health status of Dalit women Agricultural Labour in Cuddalore District, Tamil Nadu. The sample of the study consists of 300 respondents, which were selected by Multistage Random Sampling Method. The major objectives of the study are:- 1. To study the nutritional status Dalit women Agricultural Labour in the study area. 2. To identify the factors affecting the nutritional and health status of the Dalit women Agricultural Labour in the study area. The nutritional and health status of the Dalit women Agricultural Labour was mostly influenced by socio-economic and cultural factors like low education, low income status, low living standard, unsafe water facility etc. It was found that Dalit women Agricultural Labour show deficiency in consumption of food items. It was also found that dalit reproductive women suffered more due to PEM (Protein-Energy Malnutrition) in the study area. It was found that the rate of food consumption was quite low among the respondents in the study area. It was also observed that the Dalit women Agricultural Labour generally do not pay much attention to their nutritional and health problems especially during pregnancy and lactation where food and nutrient requirements are more. The nutritional and health problems Dalit women Agricultural Labour need special attention because the Dalit women Agricultural Labour have distinctive health problems. In this regard, the researcher

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attempted to analyze the nutritional and health status of the Dalit women Agricultural Labour from the Cuddalore district of Tamil Nadu.

Keywords: Nutritional Status, Body Mass Index, Health Status, Health Seeking Behavior, Health Care Facilities.

Introduction

Nutrition is one of the components of health status. Good health is a prerequisite to human productivity and the development process. It is essential to economic and technological development. Social scientists incorporated nutrition and health as its important component . disturbances in health and nutrition regardless of etiology, invariably affect the health of mothers and child growth. The social environment influences a woman's lifestyle and her diet, which in many cases is inadequate. With increasing socio-economic complexity, the issue of malnutrition is becoming responsive to multifaceted factors. These factors operate at two levels: micro and macro. At the macro level , the availability of enough food and knowledge of a balanced diet are assumed to be important determinants of nutritional balance. Propensity of the place of residence and region for production and exchange of food are critical determinants at the macro-level. However, both in the context of excess and scarcity of food, women are more vulnerable to nutritional deficiency than men. Economists and sociologists have drawn attention to the crucial role of food security in protecting the vulnerability of poor households. Evidences suggest that efforts to improve the health and nutritional status of women could be critical to the goal of poverty reduction. The weight of poverty falls more heavily on women. Among the poor, women headed households , especially are at a greater economic disadvantage than male or joint headed households because of the lower earnings of women and the dual nature of their work burden, which imposes severe time constraints, restricting their access to social and health services.

Undernutrition and poor health from preventable causes disproportionately affect the well-being of millions of people in the developing world. Factors at the individual, household and community levels or a combination of these factors may contribute to poor nutrition and health status. In particular, malnutrition among women is likely to have a major impact on their own

health as well as their children's health. More than 3.5 million women and children under age five in developing countries die each year due to the underlying cause of undernutrition (Robert et al., 2008). A heavy workload for women may lead to a poorer diet not only for their children and member of families but for women themselves. Heavy workload may be a constraint to higher productivity in food chain, constraints to adequate child care and nutrition and health risk to women themselves and a constraint for fulfilling their other basic needs. Excessive workload on the other hand brings about poor nutrition stains of women in relation to low birth weight: small for date or pre-term babies. This suffered growth retardation before birth and are said to be malnourished. When the women heavily engaged in farming did not look the morning meal might go for her days and almost never see their children: at time they left early in the morning and return after sunset. It is reasonable to assume that this work pattern will not only affect child nutrition, but also have detrimental effect on women's own health (Caldwell, 1982).

Women are generally vulnerable to undernutrition especially during pregnancy and lactation where food and nutrient requirements are more during that period. The demographic consequences of the lower status in women formed expression in various forms such as female infanticide, higher death of women compared to men, lower literacy rate in female, lower sex ratio, lower level of employment of women in the non agricultural sector as compared to men etc (Tara 1989).

The nutritional status of women is important both for the quality of their own lives and the survival and healthy development of their children. Better nutrition means stronger immune system, fewer incidences of illness and better health. However, recent evidence from developed countries indicate that malnourished women with a body Mass Index (BMI) below 18.5 show a progressive increase in mortality rates as well as an increased risk of illness. In India, increased prenatal and neonatal mortality, a higher risk of low birth weight babies, stillbirths and miscarriage are some of the consequences of malnutrition among women (Mallikharjuna and Balakrishna 2010).

Review of Literature

1. **Chatterjee (1989)** revealed that at household level, cultural norms and practices and socio-economic factors determines the extent of nutritional status. The high fertility of Indian women is one of the most detrimental socio-cultural influences on nutritional status because the metabolic stresses of pregnancy and lactation may not be adequately compensated by dietary intake before, during or even after these physiological processes. During pregnancy women's access to food even more restricted in the traditional Indian household through taboos and ritual observations, which are widely documented in both rural and tribal population.
2. **Kumar and Srivastava (2006)** have revealed that health problems prevail among the women and more than 40 per cent women are suffering from anemia problem. The women of reproductive age group are facing lot of health problems compare to the other age group. Women are facing the problems as malnutrition, calcium shortage, gynecological problems etc. The study concludes that health status of women is poor. It is observed that inadequate food, poor environment and inaccessibility of healthcare facilities are responsible for their poor health status.
3. **Udaya Lakshmi, K and Babitha, B (2014)** Nutritional status of sixty women, who were either marginal farmers or landless agricultural workers, was assessed by diet survey, anthropometry and estimation of haemoglobin levels. Diet survey was carried out by the 24 hour recall method revealed adequate intake of calories and protein but low intake of micronutrients. While intake of vitamin C and vitamin B were poor, iron and vitamin A were grossly deficient in the diet. Anthropometry showed heights and weights close to the mean height and weight values of Indian women. Body mass index was 22.5, indicating the absence of chronic energy malnutrition. Screening for haemoglobin levels showed that on the whole 93.4 percent of the women suffered from anaemia. However, micro nutrient malnutrition or "Hidden hunger" was very common with all micro nutrients especially iron, vitamin A, vitamin C and some extent the B-complex vitamins being grossly deficient.
4. **Surabhi Singh, Santosh Ahlawat, et.al., (2013)** Anthropometric data of agricultural farm women is very essential for appropriate and efficient designing of farm machinery. The

anthropometric data of 150 farm women was collected in three villages of Dantiwada taluka namely, Nilpur, Lodpa and Madivas in North Gujarat. For making the data comprehensive and more useful, a set of 20 body dimensions, which were found to be applicable in the design of various agricultural equipments, were selected, which included stature, vertical reach, vertical grip reach, eye height and so on. The data was further analyzed and the efforts had been made to illustrate the applications of these measurements for designing and standardization of women friendly equipment. In the study, in addition to the descriptive values, 5th, 50th and 95th percentile values were also calculated. The Body composition of farm women was recorded by using Body Fat Analyzer. Various characteristics of body composition such as L.B.M. (Lean Body Mass), M.B.F. (Mass Body Fat), S.L.M. (Soft Lean Mass), mineral, protein, T.B.W. (Total Body Water), P.B.F. (Percent Body) Fat), B.M.I. (Body Mass Index) and B.M.R (Basal Metabolic Rate) were measured in the present study. Efforts had been made to correlate these body parameters with increment of age. In conclusion, the present study shows some significant changes with increment of age in body composition characteristics of selected farm women.

5. Tanveer Ahmad Dar and R. Saravanan (2015) have revealed that the health status and utilization pattern of scheduled tribes gives an indication of their social exclusion as well as an idea of their linkages between poverty and health. The scheduled tribe people have very poor awareness about their health and health care systems in and around their communities and inhabitants. The main hindrance in the poor health status of Scheduled tribes is the nomad tribal environment and non acceptance of community towards professional doctors and their association with strong social networks identified as key determinants for common perception in all communities. However, the inaccessibility and unaffordability to health care and reluctance to seek help for health issues remain a significant problem in scheduled tribe areas. No doubt, the medical facilities are just rudimentary. But these people are not even willing themselves to go to hospitals for minor diseases like cold and cough as shown in the results of the present study. Above facts has been supported by the present study that they preferred to visit hospitals only in case of acute and chronic diseases. For common diseases they did not go to the hospitals for treatment but deal within their groups. In considering priorities for health, greater endeavour and resources are required to increase their awareness and change attitudes towards acceptance of now a day's health care services. The author suggested that a combination of inter personal

communication and traditional media may be adopted to deliver health care messages to the tribes in Anantnag district, Jammu and Kashmir.

Objectives

1. To study the nutritional status of Dalit women agricultural labour in the study area.
2. To identify the factors affecting the nutritional and health status of the Dalit women agricultural labour in the study area.

Methodology

The sampling of the study is said to be Multi- Stage Random sampling method. The unique feature of four tier area sampling design has been executed to get a random sample of 300 respondents from the Cuddalore district. The first stage of sampling involves the selection of district from the Tamil Nadu state. I have selected Cuddalore district from the Tamil Nadu state because this district having four blocks with different types of agricultural lands. The second stage of sampling involves the selection of four blocks from the district. The Cuddalore district has 13 blocks, out of these 13 blocks, 4 blocks namely Kurinjipadi, Cuddalore, Parangipettai, and Kattumannar Koil were selected based on the availability of different types of lands. The third stage of sampling involves the selection of eight villages from four selected blocks. The fourth stage of sampling involves the selection of respondents from the eight selected villages. The sample of 25 respondents was selected from each village and thus a total sample of 300 respondents has been selected from the Cuddalore district for the present study.

Analysis and Discussions

Mean height, weight and BMI of the respondents in the study area

Height and weight measurement of Dalit women agricultural labour were taken and BMI was calculated to assess their nutritional profile. The mean values of height, weight and BMI of the Dalit women agricultural labour are presented in the table-1.

Table-1**Mean Height, Weight and Body Mass Index of the Respondents**

Age Group (in years)	Women agricultural labour workers			Total
	Height	Weight	BMI	
18-27	5.57	56.51	19.47	62
28-37	5.51	59.49	20.96	106
38-47	5.55	62.72	22.38	86
Above-47	5.53	64.73	22.69	46
Total	5.54	60.69	21.37	300

Source: Computed from primary data

Table-1 shows the mean height, weight and Body Mass Index of the Dalit women agriculture labour. The mean height of 5.54 inches was recorded for Dalit women agriculture labour and the maximum height 5.57 inches was at the age of 18-27 years, after which there seems to be a decline, The mean weight of the Dalit women agriculture labour. was 60.69 Kg .It was also observed that among Dalit women agricultural labour, weight was directly proportional to age The mean BMI was found to be 21.37 for the Dalit women agriculture labour. It was also observed that among Dalit women agriculture labour. The mean BMI was high 21.82 at the age above-47 years

Categorization of selected adults based on BMI

BMI has been shown to be a good indicator of nutritional status. Based on BMI, the respondents were classified into four categories viz Undernourished ($BMI < 18.4$), Normal ($BMI = 18.5-22.9$), Overweight ($BMI = 23-24.9$) and Obese ($BMI > 25$) (ICMR 2010). BMI is a key index for relating weight to height. BMI is a person's weight in kilograms (kg) divided by his or her height in meters squared. The BMI limit for Indians prescribed by ICMR is as given in table-2.

Equation for predicting

$$\text{BMI} = \text{Weight in Kg} \div (\text{Height in meter})^2$$

Table-2**The BMI Limit for Indians (ICMR 2010)**

BMI rank	Status
<18.4	Undernourished
18.5 to 22.9	Normal
23 to 24.9	Overweight
>25	Obese

Source: www.healthizen.com

Table-3

Age-Wise Distribution of Body Mass Index of the Respondents

Age Group (in Years)	Body Mass Index				Total
	Undernourished (<18.4)	Normal (18.5-22.9)	Overweight (23-24.9)	Obese (>25)	
18-27	23 (37.1)	29 (46.8)	7 (11.3)	3 (4.8)	62 (100)
28-37	35 (33)	53 (50)	11 (10.4)	7 (6.6)	106 (100)
38-47	23 (26.7)	46 (53.5)	11 (12.8)	6 (7)	86 (100)
Above-47	10 (21.7)	29 (63.1)	4 (8.7)	3 (6.5)	46 (100)
Total	91 (30.3)	156 (52)	33 (11)	20 (6.7)	300 (100)

Source: Computed from primary data

Note: Figures in parentheses denote percentages to the row total

Table-3 shows the age wise distribution of the Body Mass Index of the respondents. In case of undernourished category, the highest 37.1 percent of respondents were under the 18-27 years age group and lowest 21.7 percent of respondents were above-47 years age group. In case of normal category, the highest 63.1 percent of respondents were above-47 years age group and lowest 46.8 percent of respondents were under the 18-27 years age group. In case of overweight category, the highest 12.8 percent of respondents were under the 38-47 years age group and lowest 8.7 percent of respondents above-47 years age group. In case of obese category, the

highest 7 percent of respondents were under 38-47 years age group and lowest 4.8 percent of respondents were under the 18-27 years age group.

Table-4**Type of Family-Wise Distribution of Body Mass Index of the Respondents**

Type of Family	Body Mass Index				Total
	Undernourished (<18.4)	Normal (18.5-22.9)	Overweight (23-24.9)	Obese (>25)	
Joint Family	37 (38.9)	44 (46.3)	9 (9.5)	5 (5.3)	95 (100)
Nuclear Family	54 (26.4)	112 (54.6)	24 (11.7)	15 (7.3)	205 (100)
Total	91 (30.3)	156 (52)	33 (11)	20 (6.7)	300 (100)

Source: Computed from primary data

Note: Figures in parentheses denote percentages to the row total

Table-4 shows the type of family wise distribution of the Body Mass Index of the respondents. In case of undernourished category, the highest 38.9 percent of respondents were under the joint family type and lowest 26.4 percent of respondents were under the nuclear family type. In case of normal category, the highest 54.6 percent of respondents were under the nuclear family type and lowest 46.3 percent of respondents were under the joint family type. In case of overweight, the highest percentage of 11.7 respondents was under the nuclear family type and lowest 9.5 percent of respondents were under the Joint family type. In case of overweight category, the highest 7.3 percent of respondents were under the nuclear family type and lowest 5.3 percent of respondents were under the joint family type. In case of obese category, the highest 3.4 percent of respondents were under the nuclear family type and lowest 2.1 percent of respondents were under the joint family type.

Table-5**Education-Wise Distribution of BMI of the Respondents**

Educational level	Body Mass Index				Total
	Undernourished (<18.4)	Normal (18.5-22.9)	Overweight (23-24.9)	Obese (>25)	
Illiterate	57 (35.6)	73 (45.6)	16 (10)	14 (8.8)	160 (100)
Primary	23 (29.1)	40 (50.6)	12 (15.2)	4 (5.1)	79 (100)
Secondary	9 (24)	23 (62)	3 (8)	2 (5)	37 (100)
Higher Secondary	2 (13.4)	12 (80)	1 (6.6)	-	15 (100)
Graduation & above	-	8 (88.9)	1 (11.1)	-	9 (100)
Total	91 (30.3)	156 (52)	33 (11)	20 (6.7)	300 (100)

Source: Computed from primary data

Note: Figures in parentheses denote percentages to the row total

Table-5 shows the occupation wise distribution of the Body Mass Index of the respondents. In case of undernourished category, the highest 35.6 percent of respondents were under the illiterates and lowest 13.4 percent of respondents were under the higher secondary level. In case of normal category, the highest 80 percent of respondents were under the graduation & above level and lowest 45.6 percent of respondents were under the illiterates. In case of overweight category, the highest 15.2 percent of respondents were under the primary level and lowest 6.6 percent of respondents were under the higher secondary level. In case of obese category, the highest 8.8 percent of respondents were under the illiterates and lowest 5 percent of respondents were under the secondary level.

Table-6**Income-Wise Distribution of the Body Mass Index of the Respondents**

Income level (in Rs.)	Body Mass Index				Total
	Undernourished (<18.4)	Normal (18.5-22.9)	Overweight (23-24.9)	Obese (>25)	
Below- 25000	40 (34.9)	57 (50.9)	10 (8.8)	5 (4.4)	112 (100)
25001-50000	30 (34.9)	45 (52.3)	7 (8.1)	4 (2.7)	86 (100)
50001-75000	14 (21.9)	36 (56.2)	9 (14.6)	5 (7.8)	64 (100)
Above -75000	7 (18.4)	18 (47.4)	7 (18.4)	6 (15.8)	38 (100)
Total	91 (30.3)	156 (52)	33 (11)	20 (6.7)	300 (100)

Source: Computed from primary data

Table-7 shows the income wise distribution of the Body Mass Index of the respondents. In case of undernourished category, the highest 34.9 percent of respondents were under Below-Rs. 25000 income category and lowest 18.4 percent of respondents were under the Above- Rs. 75000 income category. In case of normal category, the highest 56.2 percent of respondents were under Rs. 50001-75000 income category and lowest 47.4 percent of respondents were under the above-Rs. 75000 income category. In case of overweight category, the highest 18.4 percent of respondents were above-Rs. 75000 income category and lowest 8.1 percent of respondents were under the Rs. 25001-50000 income category. In case of obese category, the highest 15.8 percent of respondents were above Rs. 75000 income category and lowest 4.4 percent of respondents were under the below-Rs. 25000 income category.

Table-7**Per Day Calorie and Protein Content of Food Consumed by the Dalit Women**

Items	Per women's consumption per month (gms)	Per day per woman's consumption (gms)	Total protein content (gms) (per month)	Per day per woman's calorie content (gms)	Total protein content (gms)(per month)	Per day per woman protein content (gms)	Per day per head total calorie and protein content of food items consumed by the respondents	
Cereals 1	5732.0	191.05	67374	245.8	144	4.8	Protein Calorie	11.88 434.67
Pulses	364.42	15.57	663	22.1	35.1	1.17		
Vegetables	641.17	21.42	742.2	24.74	15.9	0.53		
Fish and Flesh	390.2	13.01	780.9	26.03	66	2.2		
Snacks	906	30.2	3027.6	100.92	84	2.8		
Milk Products	539.2	17.96	254.1	8.47	8.7	0.29		
Fruits	45.73	2.55	94.5	3.15	0.9	0.03		
Chutneys	62.79	2.07	103.8	3.46	1.8	0.06		
Total 2	8681.5	293.83	73040.1	434.67	356.4	11.88		

Source: Computed from primary data

Table-7 shows per day calorie and protein content of food consumed by the Dalit women agricultural labour. The total consumption of the cereals consumed per day by the tribal reproductive women was 191.05 gm and per day per women's calorie content of cereals was 245.8 gm and per day per women's protein content of cereals were 4.8 Kg/Cal. The total consumption of the pulses consumed per day by the Dalit women agricultural labour was 15.57 gm and per day per women's calorie content of pulses was 22.1 gms and per day per women's protein content of pulses was 1.17 Kg/Cal. The total consumption of the vegetables consumed per day by the Dalit women agricultural labour was 21.42 gm and per day per women's calorie

content of vegetables was 24.74 gm and per day per women's protein content of vegetables were 0.53 Kg/Cal. The total consumption of the fish and flesh consumed per day by the Dalit women agricultural labour was 13.01 gm and per day per women's calorie content of fish & flesh was 26.03 gm and per day per women's protein content of fish & flesh were 2.8 Kg/Cal. The total consumption of the snacks consumed per day by the Dalit women agricultural labour was 30.2 gm and per day per women's calorie content of snacks was 100.92 gm and per day per women's protein content of snacks were 2.8 Kg/Cal. The total consumption of the milk & milk products consumed per day by the reproductive Dalit women agricultural labour was 17.96 gm and per day per women's calorie content of milk & milk products was 8.47 gm and per day per women's protein content of milk & milk products were 0.29 Kg/Cal. The total consumption of the Fruits products consumed per day by the Dalit women agricultural labour reproductive women was 2.55 gm and per day per women's calorie content of fruits was 3.15 gm and per day per women's protein content of fruits were 0.03 Kg/Cal. The total consumption of the Chutneys products consumed per day by the Dalit women agricultural labour reproductive women was 2.07 gm and per day per women's calorie content of fruits was 3.46 gm and per day per women's protein content of fruits were 0.06 Kg/Cal.

Table-8
Per Day Average Intake of Food by Dalit Women

Items	ICMR (norms)	Food Intake of reproductive women	Deficit	Food intake of pregnant women	Deficit	Food intake of lactating women	Deficit
Cereals	440	340	100	347	93	370	70
Pulses	45	14	31	15	30	12	33
Vegetables	100	20	80	25	75	26	74
Fish and Flesh	30	10	20	11	19	11	19
Snacks	50	20	30	20	30	20	30
Milk Products	30	18	12	20	10	20	10
Fruits	30	20	10	14	16	13	17
Chutneys	30	2	28	1	29	2	28

Source: Computed from primary data

Table-8 shows per day average food intake of the Dalit women agricultural labour in the study area. According to ICMR prescribed level of food items of cereals, pulses, vegetables, fish and flesh, snacks, milk products, fruits and chutneys were 440, 45, 100, 30, 50, 30, 30 and 30 grams respectively. In case of Dalit women agricultural labour, the deficit of food intake was 100, 31, 80, 20, 30, 12, 10 and 28 grams respectively. In case of Dalit women agricultural labour, the deficit of food intake was 93, 30, 75, 19, 30, 10, 16, and 29 grams respectively. In case of Dalit women agricultural labour, the deficit of food intake was 70, 33, 74, 19, 30, 10, 17 and 28 respectively. Table-8 reveals that the average food intake of Dalit women agricultural labour was unsecured in food.

Table-9

Educational Wise Family Planning Methods Adopted by the Respondents

Educational levels	Family Planning Methods				Total
	No Planning	Oral	LUV	Sterilization	
Illiterate	74 (46.2)	43 (26.9)	31 (19.4)	12 (7.5)	160 (100)
Primary	27 (34.2)	24 (30.4)	20 (25.3)	8 (10.1)	79 (100)
Secondary	9 (24.3)	12 (32.5)	10 (27)	6 (16.2)	37 (100)
Higher Secondary	3 (20)	4 (26.7)	5 (33.3)	3 (20)	15 (100)
Graduation & above	1 (11.1)	3 (33.3)	3 (33.3)	2 (22.3)	9 (100)
Total	114 (38)	86 (28.7)	69 (23)	31 (10.3)	300 (100)

Source: Computed from primary data

Note: Figures in parentheses denote percentages to the row total

Table-9 shows the education wise family planning methods adopted by the respondents. In case of No Planning category, the highest 46.2 percent of respondents were under illiterates and lowest 11.1 percent of respondents were under the graduation & above level. In case of Oral family planning method, the highest 32.5 percent of respondents were under primary level and lowest 26.7 percent of respondents were under the graduation & above level. In case of LUV family planning method, the tribals shows the highest 33.3 percent of respondents were under higher secondary level and lowest 19.4 percent of respondents were under the illiterates. In case of Sterilization family planning method, the highest 22.3 percent of respondents were under the graduation & above level and lowest 7.5 percent of respondents were under the illiterates.

Table-10

Income levels and Place of Deliveries of the Respondents

Income level (in Rs.)	Place of Delivery			Total
	Home	PHC & GH	Private Hospital	
Below- 25000	22 (19.7)	78 (69.4)	12 (10.7)	112 (100)
25001-50000	15 (17.4)	58 (67.5)	13 (15.1)	86 (100)
50001-75000	8 (12.5)	43 (67.2)	13 (20.3)	64 (100)
Above -75000	4 (10.5)	23 (60.5)	11 (29)	38 (100)
Total	49 (16.3)	202 (67.3)	49 (16.4)	300 (100)

Source: Computed from primary data

Note: Figures in parentheses denote percentages to the row total

Table-10 shows the income wise place of the delivery of the respondents. In case of home deliveries, the tribals shows the highest 19.7 percent of respondents under below-Rs 25000 income level and lowest 10.5 percent of respondents under the above Rs. 75000 income level. In case of PHC & GH deliveries, the tribals shows the highest 69.4 percent of respondents were

below-Rs. 25000 income level and lowest 60.5 percent of respondents were the below-Rs. 25000 income level. In case of private hospital deliveries, the tribals shows the highest 29 percent of respondents under above Rs. 75000 income level and lowest 10.7 percent of respondents under the below-Rs. 25000 income level.

Table-11**Awareness of Family Planning Programmes and Time Interval between Deliveries**

Time Interval between deliveries	Awareness of Family Planning Programmes			Total
	No	Average	High	
Low	38 (55.9)	17 (25)	13 (19.1)	68 (100)
Medium	65 (43.1)	50 (33.1)	36 (23.8)	151 (100)
High	17 (21)	36 (44.4)	28 (34.6)	81 (100)
Total	120 (40)	103 (34.3)	77 (25.7)	300 (100)

Source: Computed from primary data

Table-11 shows the awareness of family planning programmes and the time interval between deliveries of the respondents. In case of No awareness of family planning programmes category the tribals shows the highest 55.9 percent of respondents under low interval between deliveries and lowest 21 percent of respondents under the high interval between deliveries. In case of average awareness of family planning programmes the tribals shows the highest 44.4 percent of respondents under high interval between deliveries and lowest 25 percent of respondents under the low interval between deliveries. In case of high awareness of family planning programmes the tribals shows the highest 34.6 percent of respondents under high interval between deliveries and lowest 19.1 percent of respondents under the low interval between deliveries.

Findings

1. It was found that the mean height was 5.54 inches, mean weight was 60.69 Kg and mean BMI was 21.37
2. It was found that the BMI was higher 22.69 in above-47 year age group and lower 19.47 in 18-27 years age group, weight was higher 64.73 Kg in above-47 years age group and lower 56.51 Kg in 18-27 years age group and height was higher 5.57 in 18-27 years age group and lowest 5.53 in above 47 years age group.
3. It was found that the majority of the respondents 35.6 percent were undernourished belongs to illiterates while as the majority of the respondents 15.2 percent were overweight belongs to primary level.
4. It was found that the majority of the respondents 37.1 percent were undernourished belongs to 18-27 years age group while as the majority of the respondents 12.8 percent belongs to the above-47 years age group.
5. It was found that the majority of the respondents 34.9 percent were undernourished belongs to below-25000 income group while as the majority of the respondents 18.4 percent were overweight belongs to the above-75000 income group.
6. It was found that dalit reproductive women show deficiency in consumption of cereals, pulses, green leafy vegetables, fish and flesh, milk and milk products, fruits, snacks and chutney while compared with ICMR Recommended level. This shows the nutritional insecurity of dalit reproductive women. It was also found that dalit reproductive women suffered more due to PEM (Protein-Energy Malnutrition) in the study area. It was found that the rate of food consumption was quite low among the respondents in the study area.
7. It was also found that 16.3 percent of the Dalit women agricultural labour deliveries take place at home and 67.3 percent of the respondent's deliveries take place in Govt. Hospitals.
8. It was also found that in case of no planning majority of the respondents 46.2 percent of the respondents have no awareness about family planning methods belongs to illiterates and 12 percent of respondents were using the sterilization method for family planning belongs to illiterates.
9. It was also found that low income capacity to make use of available health care facilities and services among the Dalit women Agricultural Labour and they have low user fee paying capacity for health care services. In general, illiterate and primary level educated Dalit women

Agricultural Labour have low health consequent upon lack of awareness about health care practices. Usually they belong to the poor households, so, they are not able to take required nutritional and health care practices.

Policy Suggestions

1. There is a vital need for mass education program free of cost in Dalit women Agricultural Labour communities in order to raise their social and economic status. Furthermore, due importance to female education has to be accorded to increase the Dalit women Agricultural Labour literacy rate and educational attainment at par with their male counterparts and Dalits as a whole to minimize the dalit and the other community disparities in the levels of education.
2. Given the large prevalence of under nutrition among the Dalit women Agriculture Labour as indicated by the primary survey, there is a need for mass information, education and communication in the Dalit communities in order to increase their awareness about intake of proper nutrient rich food during the pregnancy and child bearing.
3. We also argue for the improvement of affordable, accessible and quality health care services in the Dalit communities with proper follow-up in order to raise the general nutritional and health status of the Dalit population.
4. The government can strengthen the household capacity to access food through public food distribution, food price stabilization and food for work programmes.
5. Finally, the Government of India should repeatedly take steps to strengthen preventive health care services in addition to the provision of easy treatment for delivery and emergency services. The nutritional status of the dalit women was quite low. Hence there is a need to increase nutritional status of the Dalit women Agriculture Labour with the support of IRDP.

References

- Babitha and Udaya Lakshmi K. 2014. Dietary Intake and Nutritional Status of Women in Rural Guntur District” Biolife, 2(4):1120-1124
- Chatterjee Mcera 1989. “Socio-economic and Socio-cultural Influence on Women’s Nutritional Status”
- Mallikharjuna and Balakrishna. 2010. “Diet and Nutritional Status of Women in India.” Journal of Human Ecology, 29(3): 165-70.

- Robert et al., 2008. "Maternal and Child Under Nutrition: Global and Regional Exposures and Health Consequences" retrieved from <http://www.thelancet.com>.
- Srivastava and Kumar (2006): "Women Health and the Role of Internal Environment: Evidence from India's National Family Health Survey-II" (1998-99), Man in India, Serials Publications, New Delhi, Vol. 86(3): 287-298
- Surabhi Singh et al., 2013. "Anthropometric Measurements and Body Composition Parameters of Farm Women in North Gujarat." Ergonomics, 3(1): 1-4
- Tanveer, Ahmad Dar and Saravanan R. 2015. "Economic Analysis of Health Seeking Behaviour of Scheduled Tribes in Anantnag District, Jammu and Kashmir." International Journal of Research in Social Science, 5(4): 247-60.
- Tara.1989. "An Exploratory Study of the Women Constrains, Felt Needs and Preferences of Rural Women for Economic Development." Indian Journal of Training and Development, 19(5): 45-49.