WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 17, 960-971. Research Article ISSN 2277– 7105

A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE OF TRIBAL ADULT WOMEN IN PALAMALAI, SALEM DISTRICT

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Article Received on
26 July 2018,

Revised on 16 August 2018,
Accepted on 06 Sept. 2018

DOI: 10.20959/wjpr201817-13370

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ABSTRACT

Background: Study objective was to assess the anthropometric measurement, biochemical, clinical and dietary assessment from the selected tribal adult women. **Methodology:** Study was conducted in palamali Village of Salem district, Tamil Nadu. Sample of 100 tribal adult women belonging to the age group of 25 to 45 years were selected for the collection of data regarding Anthropometric measurements like height, weight, were measured. Body mass index was calculated for the selected subjects. 24 hour dietary recall method was used to assess the dietary intake of the subjects, life style pattern and nutritional knowledge was assessed before and after Nutrition Education **Results:** Mean height and weight were compared with standard values and found that height was below the standard values of NCHS (2010) and weight was normal. BMI of the subjects found that, 23 per cent of the subjects had normal BMI and 42 per cent of the subjects had BMI of < 16 and it categorized as severe malnutrition. 21 per cent of the subjects had BMI in the range of 25-29.9 and it was categorized as overweight.14 per cent was indicated obesity. The respondents mean height was 160 cm and the mean weight was 54 kg. Cereals and pulses were consumed daily and green leafy vegetables consumed regularly. Consumption of fruits and milk were poor. Food intake was less than the ICMR suggested RDA except green leafy vegetables and nutrient intake was found to be in adequate except vitamin, iron and calcium. **Conclusion:** Tribal women of palamalai had very poor knowledge on nutrition, health, hygiene and sanitation. This study helps to gain nutritional knowledge, attitude and good practice of hygiene and sanitation to the adult women.

KEYWORDS: Tribal women, Dietary Practice, Hygiene and Sanitation.

A. INTRODUCTION

Today the position of women is not an enviable one several social reformers fought against the oppression of females in pre independent India. Independent India adopted several measures to protect the rights of women and establish equality of status between men and women. In spite of these the conditions of women in India continues to be one for concern. A lot of efforts and measures have been taken to improve the positions of women in India by the Government especially after independence. Tamil Nadu is one of the very few statuses in the country which have taken steps to ensure 33% representation for women in all statutory and non-statutory committee of the Government. Health and nutritional status of the population of a nation is an important indicator of development of the country. Adequate nutrition is needed for all the living being to lead a good quality of life. Inadequate nutrition is the predominant factors leading to malnutrition. The causes of malnutrition have been traced to poverty, ignorance, traditional beliefs and customs, faulty feeding practices, poor hygiene, unsanitary condition and lack of adequate nutritional knowledge, under nutrition is an important factors responsible for high infant mortality rate, Maternal mortality rate and also for low birth weight of infants.

B. MATERIALS AND METHODS

1. Selection of Area

Palamalai is a Village in Kolathur Block in Salem District of Tamil Nadu State, India. It is located 53 Km towards west from District headquarters Salem. 16 Km from Kolathur. 363 Km from State capital Chennai. This area was selected for the study.

2. Formation of interview schedule

Keeping in view the objectives and the variables of the study a comprehensive structured schedule was prepared. An interview schedule covering the information regarding age, religion, caste, type of family, type of house, monthly income, educational status, collection of data regarding 24 hour dietary recall method was used to assess the dietary intake of the subjects. Based on this, the mean food intake and the mean nutrient intake of the selected individuals were calculated using the table values and the nutrient adequacy was computed by comparing the nutrient intake with the Recommended Dietary Allowances for Indians. The nutritional status of the subjects was assessed by using parameters like anthropometric

measurements such as height, weight, Body Mass Index (BMI) and Waist to Hip Ratio (WHR).

Programmes which are active in the tribal to improve the nutritional status of the community, exposure to audio visual aids, posters, pamphlets, charts and oral classes on nutrition, health, hygiene and sanitation were very effective methods to provide Nutrition Education. After pretesting, inconsistencies noted were rectified and then the schedule was finalized.

Part-I	General information
Part-II	Nutrition Knowledge test on balanced diet
Part-III	Nutrition Knowledge test on deficiency Disorders
Part-IV	Knowledge test on hygiene and sanitation

Interview method of data collection was considered as the best as the respondents possessed low literacy level.

2.1. Dependent variable

If one variable depends upon or is a consequence of the other variable it is termed as a dependent variable ***(Kothari, 1995)***. Knowledge gain and Knowledge retention were the two dependent variables taken up for this study.

S.NO	Dependent variable	Scoring procedure
1.	Knowledge gain	Schedule developed for the study
2.	Knowledge retention	Schedule developed for the study

3. Knowledge gain and knowledge retention

Mc Leod (1982) defined knowledge as the facts and experiences known by a person. Knowledge in this study as the quantum of scientific information known to the respondent about the nutrition knowledge on balanced diet, health status and hygiene and sanitation.

3.1. Knowledge gain

Knowledge gain was the quantum of information or message newly learnt by the respondent through slides, video, audio and charts education.

3.2. Knowledge retention

Knowledge retention was the portion of the quantum of information or message retained/ remembered by the respondent from the newly learnt through slides, video audio and charts education after a period of one month.

3.3. Measuring knowledge gain

The knowledge level of the respondents was measured at three stages, viz., pre exposure, immediately after exposure, one month after exposure on the educated subjects. The difference between the pre-exposure and immediately after exposure was considered as knowledge gain. A unit score was given for every correct answer and zero for a wrong answer. The scores obtained by each of the respondents was converted into percentage ***(pandian, 2009)***.

3.4. Measuring knowledge retention

The difference in the percentage knowledge level of the respondents was measured immediately after –exposure stage and one month after education exposure. The difference between these two values gives the value for knowledge retention.

4. First stage data collection

The respondents were personally contacted and the schedule was administered before exposure to the programme. Socio-economic status, nutritional knowledge, dietary practices and the initial knowledge level of respondent were assessed.

5. Planning and executing of Nutrition Education

The respondents were educated based on the identified gaps in nutrition knowledge and dietary practices through slides, video, audio and charts on the subject's viz., balanced diet, health status and hygiene and sanitation.

6. Second stage data collection immediately after educating the respondent

During second stage data collection, the same set of items was administered to assess the knowledge gain soon after the education was completed .Thus knowledge gain was assessed.

7. Third stage data collection one month after educating the respondent

After one month same set of items was administered to find out the knowledge retention. Thus impact of nutrition education in terms of knowledge gain, knowledge retention and change in dietary practices were assessed.

C. RESULT AND DISCUSION

1. Socio-Demographic Profile of The Selected Respondents

The health status of the population depends on their socio-demographic background. The general information of the respondents like age, residential area, religion, educational status,

occupational status, types of family, size of family, family monthly income were studied. Hence the information pertaining to the socio-demographic status were calculated and presented in the table 1.

Table 1: Socio-Demographic Profile of the Selected Respondents.

Variable	Percentage (N=100)
Age	
25-30	48
30-35	14
35-45	38
Residence	
Tribal	100
Religion	
Scheduled tribes	34
Schedule caste	26
Most backward caste	13
Backward castes	18
Other castes	9
Educational qualification	
High school	12
Middle school	20
Primary school	28
Illiterate	40
Occupation	
Self- employee	70
House wife	30
Types of family	
Nuclear family	67
Joint family	33
Family size	
small size (2-4m)	54
Medium size (5-8m)	38
Large family (above 8m)	8
Family monthly income	
Below 2000	20
2000-3000	18
3000-4000	50
4000-5000	12

Apparent from the table that, out of 100 tribal women majority 48 per cent belonged to 25 – 30 years of age groups, 34 per cent were scheduled tribes, based on the educational qualification 40 per cent were illiterates. Majority 70 per cent of the respondents were self-employee, 67 per cent were from nuclear families.50 per cent were from earning an income range 3,000-4,000 and the rest of them had their family income between Rs.4, 000-5,000.

2. Nutritional Status of The Tribal Women

2.1. Anthropometric Measurement of the selected Respondents

The anthropometrical measurements such as height and weight were measured from the respondents. It is an effective indicator of health status. The heights, weight of the respondents were measured and body mass index (BMI) was calculated. The data obtained are presented in the table 2.

Table 2: Mean Height and Weight of the Respondents.

Variable	Values
Mean height	160 cm
Mean weight	54 kg

The above table shows that, the respondents mean height is 160 cm and the mean weight is 54 kg.

2.2. Body mass index (BMI) of the respondents

The body mass index (BMI) was calculated from height and weight of the respondents using standard formula. Hence the data were presented in table 3.

Table 3: Body Mass Index (BMI) of the Respondents.

Body mass index(BMI)	Percent (N=100)
Underweight <18.5	42
Normal 18.5 – 24.9	23
Over weight 25 – 29.9	21
Obesity 30 – 35	14

Razak f, et al.(2007)

The table results denoted that the higher percentage (42) of the respondents were under weight. The 23 per cent of the respondents was normal weight. 21 per cent of the women over weight and 14 per cent of the respondents were obesity categories.

2.3. Biochemical Measurement of the Respondents

The biochemical profile such as blood pressure was measured from the respondents. It is an effective indicator of health status. The blood pressure of the respondents were calculated and the data obtained are presented in the table 4.

Table 4: Biochemical Profile of the Respondents.

Blood Pressure level	Percent (N=100)
Mild hypertension (90-104mm Hg)	26
Moderate hypertension (105-119 mm Hg)	25
Severe hypertension (120-130 mm Hg)	49

The table results denoted that the higher percentage (49) of the respondents were severe hypertension. 25 per cent respondents were moderate hypertension. Rest of them was mild hypertension. The table concluded that the hypertension level was high in the tribal women.

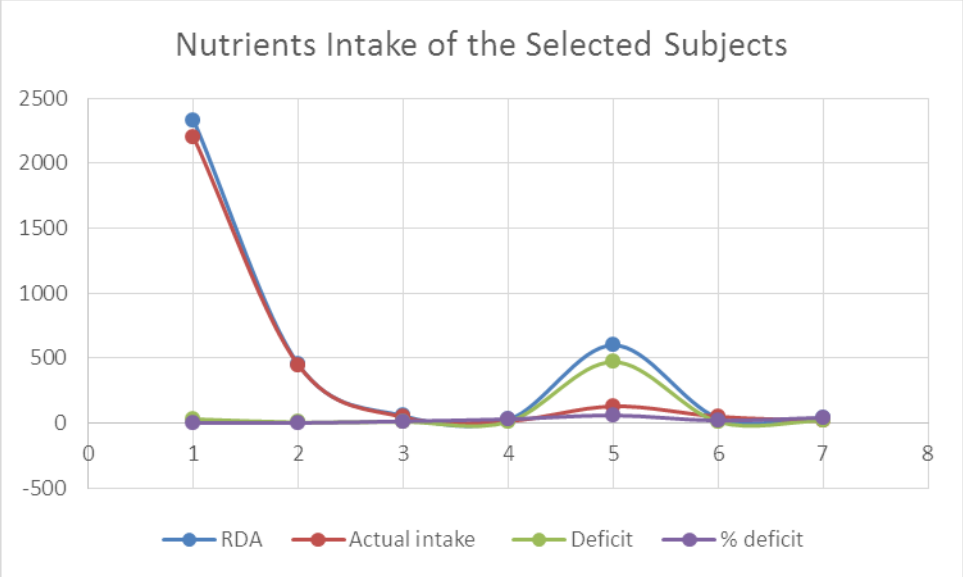
2.4. Dietary Survey

The diet should be providing adequate amounts of all nutrients to maintain good health and physical efficiency. A single 24 hours dietary recall was done to calculate the daily nutrient intake of the selected respondents and the results are presented in the table 5.

Table: 5: Nutrients intake of the Selected Respondents.

Nutrient	RDA	Actual intake	Deficit	% deficit
Energy(kcal)	2330	2200	30	1.0
Carbohydrate(g)	450	445	5	0.8
Protein (g)	55	45	10	13.6
Fat (g)	25	15.12	10	29.64
Calcium (mg)	600	129	471	58.8
Vitamin (mg)	40	50	10	18.75
Iron (mg)	35	15.76	19.24	41.2

Comparing the recommended dietary allowances (RDA) It can be observed that intake of energy was found 1.0 per cent deficient,. 13.6 per cent of protein intake was deficit, similarly calcium, vitamin were also less. Intake of the carbohydrate found to be equal than RDA. Nutrient intake of the selected tribal adult women in the present study was found to be inadequate when compared with Recommended Dietary Allowances of ICMR (2010).



3. Effectiveness of Nutrition Education In Terms of Knowledge Gain

The pre-exposure and post–exposure knowledge levels of the tribal women respondents in nutrition education programs were assessed in order to find out the knowledge gain.

3.1. Knowledge gain through nutrition education

The percentage of knowledge gained was calculated**.** The maximum attainable score by an individual was 19 per cent for balanced diet, 18 per cent for health status and 18 per cent for hygiene and sanitation .The score obtained by each of the respondents in balanced diet, health status and hygiene and sanitation separately converted in to per cent. The difference in the percentage scores of the two levels has the knowledge gain of the respondents. The results of the analysis have been presented in table 6.

Table 6: Knowledge Gain through Nutrition Education.

Name of nutrition Education	Knowledge level %		Knowledge gain %
	Pre-exposure	Post exposure	
Balanced diet	36.21	84.73	48.52
Health status	37.66	88.11	50.45
Hygiene and sanitation	34.44	86.77	52.33

From this table it was evident that nutrition education had brought about a knowledge gain among the tribal women. It was observed that the knowledge gain was 48.52 percentage in respect of balanced diet while of was 50.45 percentage for health status and 52.33 percentage for hygiene and sanitation.

3.2. Effectiveness of nutrition education in terms of knowledge retention

The post exposure knowledge level after one month of the nutrition education programmes was taken into consideration to assess the knowledge retention level of the rural women respondents.

3.3. Knowledge retention through nutrition education.

The knowledge retention of the respondent was calculated from the difference in the knowledge level between before exposure and after one month of the exposure. The results have been furnished in the table 7.

Table 7: Knowledge Retention through Nutrition Education.

Nutrition education	Knowledge level percentage		Knowledge gain percentage	Knowledge retention percent
	Pre exposure	Post exposure		
Balanced diet	36.21	60.10	23.89	72.00
Health status	37.66	79.68	42.02	79.66
Hygiene and sanitation	34.44	82.49	48.05	81.44

Nutrition education was effective in terms of knowledge retention of the tune of 23.89, 72.00, 42.02, 79.66 and 48.05, 81.44 with regard to nutrition education sessions balanced diet, health status and hygiene and sanitation respectively.

Test of significance

To find out the significance of knowledge retentions due to nutrition education on the selected topic, paired' test was performed by comparing the percentage of knowledge retention and the percentage of knowledge gain. The results of the analysis have been furnished in table 8.

Table 8: Significance of Knowledge Gain and Knowledge Retention.

Name of the nutrition Education	Percent				
	Knowledge gain	Knowledge Retention	't'	C value (correlation value)	P value
Balanced diet	48.52	72.00	-12.03	0.020	0.000
Health status	50.45	79.66	-14.829	-0.200	0.000
Hygiene and sanitation	52.33	81.44	-11.640	-0.139	0.000

** Significant NS –not significant CV- co-efficient variance

The knowledge gain and knowledge retention levels due to nutrition education on the selected topics viz., Health status and hygiene and sanitation were significant, but balanced diet was non-significant. Therefore it could be concluded that nutrition education contributed to significant knowledge retention among the participants with respect to health status and hygiene and sanitation as the tribal women had some previous exposure to these field whereas less exposure to the balanced diet results non significance.

3.4. Distribution of respondents according to their level of knowledge retention on balanced diet, health status and hygiene and sanitation.

The tribal women respondent exposed to nutrition education were categorized into low medium and high level groups by cumulative frequency method according to their knowledge retention with regard to balanced diet health status and hygiene and sanitation. The categorization is presented in table 9.

Table 9: Distribution of Respondents according to their Knowledge Retention On Balanced Diet, Health, Hygiene and Sanitation.

Knowledge Retention	Category levels					
	High Level no	percentage	Moderate level no	percentage	Low level no	Percentage
Balanced diet	52	68	14	18	10	13
Health status	59	81	10	13	3	4
Hygiene and Sanitation	48	66	18	25	6	8

3.4.1. Balanced diet

It is disclosed from the table that 68.00 percentage respondents belonged to high category with regard to knowledge retention an balanced diet followed by 18 per cent and 13 per cent under moderate and low level category respectively. Form the above finding it could be concluded that majority 68 per cent of the respondents had high level of knowledge retention on balanced diet.

3.4.2. Health status

The table revealed that majority 81 per cent of the respondents' belonged to high level category with regard to knowledge retention in health status followed by moderate (13 per cent) and low level (4 per cent) respectively.

3.4.3. Hygiene and sanitation

The table revealed that majority (66 per cent) of the respondents belonged to high level category with regard to knowledge retention on hygiene and sanitation followed by (25 per cent) moderate level and (8 per cent) low level. Among the given nutrition education sessions viz., balanced diet, health status and hygiene and sanitation in knowledge gain also, relatively regards balanced diet, health status and similar was the outcome in knowledge retention. The reasons discussed under knowledge gain might also be attributed as causes for such a response under knowledge retention.

D. CONCLUSION

In this study, tribal women of palamalai had very poor knowledge on nutrition, health, hygiene and sanitation. A series of nutrition education using various aids on balanced diet, deficiency diseases, personal hygiene and sanitation has led to a drastic increase in the knowledge retention respectively. The subjects were enthusiastic in learning and acquiring knowledge on these unknown basic essential facts on health and nutrition which has made these studies a successful and useful one to the underprivileged group & society.

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