

DIETARY PERSPECTIVE AND RETROSPECTIVE OF THE SELECTED ADULTS IN COIMBATORE CITY, TAMILNADU

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Abstract

Background: Next to China, India drives the world with biggest number of diabetic subjects, acquiring the questionable differentiation of being named, "the diabetes capital of the world". One of the most widely recognized issues identified with way of life today is being overweight which is a key, for example, heart infections, Diabetes Mellitus, hypertension and so on. Objectives: Hence, middle age adulthood must need to pay attention towards healthy nutritional diet. Preventive measures through assessing the nutritional status of adults such as anthropometric, dietary survey, food consumption pattern, nutritional awareness, physical activity and alertness about diseases will assist the community from the occurrence of non communicable diseases. Methods: The zone chose for the lead of the examination was Coimbatore and dependent on the openness and the co-activity rendered in recognizable proof of the subjects, the industry chose was Private Limited Company. The subjects chose were in the age gathering of over 50 years covering the two people utilizing purposive inspecting strategy. Results: The data indicates that the adults are in the border line of non-communicable diseases such as overweight or obesity, cardio vascular disease, Type 2 diabetes and hypertension. Conclusion: This could be rectified through regular practice of consuming a nutritious and appropriate diet and physical exercise.

Keywords: Diabetes, overweight, nutritional awareness, physical activity, Food consumption

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1. INTRODUCTION

The world is near the very edge of a segment achievement. At present, non transmittable ailments that all the more oftentimes trouble grown-ups and more seasoned individuals force the greatest weight on worldwide wellbeing. As the age advances, chance factor and the frequency of malady likewise increment (NIH (National Institutes of Health, 2010). We are besieged with nourishment and wellbeing messages regular and evidently unending exhibit of worry about way of life and diet can help decrease the danger of specific conditions, for example, weight, heart ailments, hypertension and diabetes (World Health Organization, 1995).

The majority of the worldwide weight of non transmittable maladies in middle age is essentially among Asians (Bloom, D.E. et.al. 2013). The middle adulthood is the bridge

between younger and older adulthood, around the third quarter of the average lifespan of human beings which have need of individual attention (Arnett, J.J., 2001). Hence, middle age adulthood must need to pay attention towards healthy nutritional diet. Global burden of all non communicable diseases are beginning at this period. Preventive measures through assessing the nutritional status of adults will lend a hand to the community in preventing the occurrence of non communicable diseases.

Considering the issues critical to the wellbeing and way of life of middle adulthood and seek their input in making recommendations for imparting their eating practices. Diet, exercise and mental well being are considered important components of the preventive strategy for adults.

2. MATERIAL AND METHODS

MATERIAL NEED FOR THE STUDY

1. Elicit information on socio economic status of selected adults.
2. Acquire information on physical activity of the selected adults.
3. Assess the nutritional status of the selected Adults through anthropometric measurement.
4. Dietary Perspective of the Selected Adults.

METHOD

The zone chose for the direct of the examination was Coimbatore and dependent on the openness and the co-activity rendered in recognizable proof of the subjects, the industry chose was Private Limited Company. The subjects chose were in the age gathering of over 50 years covering the both genders utilizing purposive examining strategy.

An all out number of ninety two grown-ups over the age of 50 from different branches and division of the private constrained organization were incorporated for the lead of the examination. Those subjects have different shifts like day and night shift. The hours of work are eight to ten hours. The adults aged above 50 years were shortlisted by the management and the same was communicated to each department. According to the scheduled timing, the interview schedule was prepared for each day and thus target group of (age above 50 years) adults were identified by the researcher.

Details regarding socio economic status, physical activity pattern and nutritional status of selected Adults were collected with the help of a interview schedule in which the variables are updated in the SPSS version 16. The investigator collected the information using direct personal interview and recorded the data given by the respondents.

Nutritional status was assessed by using selected anthropometric measurement indices. In this study, the anthropometric measurements indices collected were height, weight and BMI for all the selected adults. Body mass index has been proposed as simple and valid measures for

monitoring fatness (Schroeder and [Martorell](#), 1999). BMI was computed for all the subjects from the deliberate height and weight using the following equation.

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m}^2\text{)}}$$

In the current investigation stature and weight were estimated according to the convention and BMI was determined and grouped by the proposals given by International Diabetes Federation (2008).

Dietary assessment

The investigator followed the 24 hours dietary recall method. The amount of food consumed was determined using 24-hour food intake which recorded all foods and beverages consumed. From this the raw ingredients consumed were computed and the nutritive values of the foods were calculated. These values were then compared with RDA to assess the nutritional adequacy of the sub sample.

3. RESULTS AND DISCUSSION

Results

A. Socio economic position of the selected adults (table I)

The socio economic position of the selected Adults reveals that more number of subjects were male, of Hindu religion, were married, had completed higher secondary education, living with high income and in nuclear family and were living with small family members.

B. Physical activity of the selected adults

Physical activity level (table II)

Table II elucidates 61 per cent (56) had sedentary activity and 39 per cent were engaged in moderate activity. None of the adults did heavy activity.

C. Nutritional status of the selected adults

Anthropometric details

1. Mean height, Weight and BMI (table III)

2. Body Mass Index (BMI) (table IV)

3. BMI and physical activity analysis (table V)

Table I Socio economic position of the selected Adults (N 92)

Variables		No.	%
Age (yrs)	50-52	51	54
	53-55	31	34
	56-58	10	11
Religion	Hindu	78	85
	Christian	14	15
	Muslim	-	-
Level of education	High School	35	38
	Higher secondary school	41	45
	Graduates	13	14
	Post graduates	3	3
Monthly income	Rs.0 – 3000 Below poverty line (BPL)	-	-
	Rs.3000-5000 Low income group (LIG)	-	-
	Rs.5000-10000 Middle income group (MIG)	-	-
	Rs.above 10000 High income group (HIG)	92	100
Marital Status	Married	91	99
	Single/Unmarried	1	1
Type of Family	Nuclear	79	86
	Joint	13	14
Family Members	< 3	2	2
	3-5	46	50
	5-8	31	34
	>8	13	14

Table II Physical activity level of the selected adults

Activity	Number	Percentage
Sedentary	56	61
Moderate	36	39
Heavy	-	-
Total	92	100

Table III Mean height, weight and BMI of the selected adults

Parameters	Mean±S.D (n=92)
Height (cm)	162±9.21
Weight (kg)	68±9.10
BMI (kg/m ²)	26±4.33

Table IV Classification of the selected adults according to body mass index

Classification		Number	Percentage
BMI	Category		
<18.5	Underweight	1	1
18.5-24.9	Normal	36	39
25-29.9	Overweight	39	43
30-34.9	Grade I obese	12	13
35-39.9	Grade II obese	3	3
>40	Grade III obese	1	1
Total		92	100

Table V Correlation analysis of the bmi and physical activity of the selected adults (N=92)

Category	BMI
Physical activity	0.94*
*Significant at 0.05% level	

Table IV presents the classification of the selected Adults according to Body Mass Index categories recommended by World Health Organization (2006). It is evident from the data that 39 per cent (36) of the selected

Adults are in the normal category of BMI (18.5 to 24.9). Only a negligible number of one per cent (Figure1) had a BMI less than 18.5 and are classified as underweight.

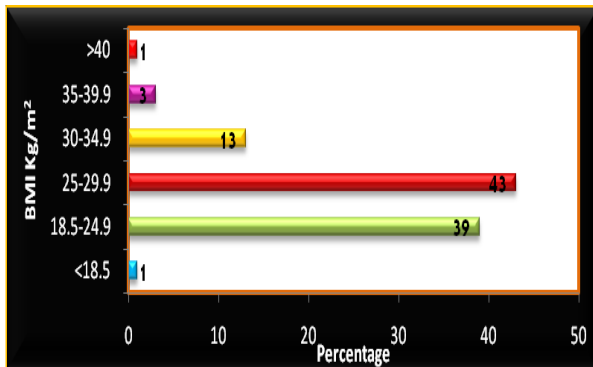


Figure 1 Classification of the Selected Employees According to Body Mass Index

D. Dietary perspective of the selected adults

According to Gopalan (2010) dietary surveys to assess dietary intake and nutritional status of the population are essential to monitor ongoing nutrition transition and initiate appropriate interventions.

1. *Dietary Details* (table VI)

2. *Food Consumption Pattern* (table VII, figure 2)

3. *Consumption of junk foods*(table VIII)

4. *Mean nutrient intake* (table IX)

5. *Multivariate analysis*(table X)

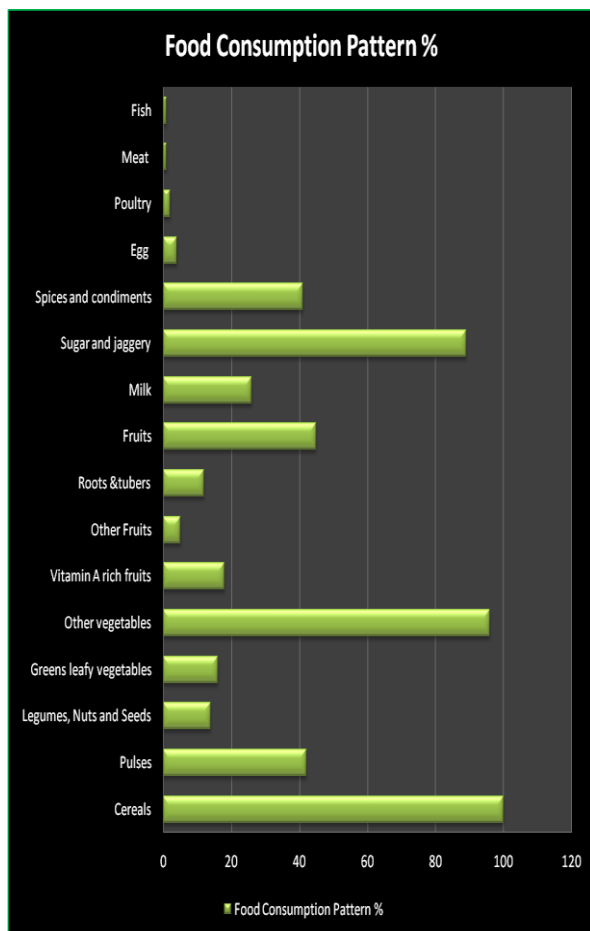


Figure 2 Food Consumption Pattern By Selected Adults (Daily Basis)

A Pearson produce moment correlation was conducted to examine the relationships amid Diabetes, Physical activity (PA), Age, BMI, Family Diabetes History (FDH), Quick Eating Habits (QEH), Junk Foods (JF) in selected adults with the number of Diabetes cases. Diabetes risk was more strongly positively related to Quick Eating Habits, $r(90) = .81, p < .001$, followed by Family Diabetes History, $r(90) = .75, p < .001$, Physical Activity, $r(90) = .71, p < .001$, Age, $r(90) = .71, p < .001$, Junk Food, $r(90) = .23, p < .005$. There was a significant negative association between diabetes and their BMI, $r(90) = -.48, p < .005$, than to Age, $r(90) = -.65, p < .001$, two-tailed. The results suggest that there was a statistical significant associated between Diabetes, Physical activity, Age, BMI, Family Diabetes History, Quick Eating Habits, Junk Foods in selected adults. A complete list of correlation is presented in Table X.

Discussions

The results depict that the prevalence rate of non communicable diseases like diabetes and hypertension was higher among sedentary workers than moderate activity workers.

Table VI Dietary perspective of the selected adults (N 92)

Variables		No.	%
Type of Diet	Vegetarian	9	10
	Non-Vegetarian	79	86
	Ova-Vegetarian	4	4
Number of meals consumed	Two	6	7
	Three	83	90
	Four	3	3
Skipping Meal	Daily one meal	7	8
	Weekly one meal	13	14
	Weekly two meals	5	5
Habit of Fasting	A meal per day	1	1
	A meal per week	9	10
	A meal per month	8	9
Habits of Eating	Quick	45	49
	Moderate	29	32
	Slow	18	20
Quantity of Water Consumption Per Day	<4 glass	14	15
	4-8 glass	45	49
	>8 glass	33	36
Food Allergy	Brinjal	2	2
	Potato	3	3
	Cabbage	1	1
	Coconut	1	1
	Crab	1	1
	Tea	1	1

Table VII Frequency of food consumption pattern by the selected adults

Food items	Daily		Weekly		Occasionally		Never		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Cereals	92	100	-	-	-	-	-	-	92	100
Pulses	39	42	53	58	-	-	-	-	92	100
Legumes, Nuts and Seeds	13	14	34	37	11	12	34	37	92	100
Greens leafy vegetables	15	16	66	72	10	11	1	1	92	100
Other vegetables	88	96	4	4	-	-	-	-	92	100
Vitamin A rich fruits	17	18	50	54	7	8	18	20	92	100
Other Fruits	5	5	43	47	13	14	31	34	92	100
Roots & tubers	11	12	72	78	5	5	4	4	92	100
Fruits	41	45	38	41	11	12	2	2	92	100
Milk	24	26	5	5	3	3	60	66	92	100
Sugar and jaggery	82	89	-	-	3	3	7	8	92	100
Spices and condiments	38	41	53	58	-	-	1	1	92	100
Egg	4	4	49	53	27	29	12	13	92	100
Poultry	2	2	56	61	15	16	19	21	92	100
Meat	1	1	14	15	43	47	34	37	92	100
Fish	1	1	37	40	35	38	19	21	92	100

Table VIII Consumption of junk foods by the selected adults

Food items	Daily		Weekly		Occasionally		Never		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Baked items	3	3	17	18	23	25	49	53	92	100
Chat items	-	-	15	16	37	40	40	43	92	100
Fried items	16	17	45	49	25	27	6	7	92	100
Sweets	5	5	20	22	55	60	12	13	92	100
Pizza	-	-	1	1	10	11	81	88	92	100
Savories	-	-	-	-	5	5	87	95	92	100
Burger	-	-	1	1	3	3	88	96	92	100
Carbonated beverages	-	-	6	6	22	24	64	70	92	100

Table IX Mean nutrient intake of the selected adults

Nutrients	RDA*	Actual Intake	Excess/deficit nutrient intake
Energy(K.cal)	2875	2210	-665
Protein(g)	60	61	+1
Fat(g)	20	44	+24
Carbohydrate(g)	300	375	+75
Fibre(g)	25	9	-16
Calcium(mg)	400	598	+198
Iron(mg)	28	15	-13

*Dietary Guidelines for Indians- A manual, NIN, ICMR, 2010

Table IX reflects the mean nutrient intake of the selected adults calculated from 24 hour recall survey.

Table X Correlation for diabetes with various factors (N=92)

Category	PA	Age	BMI	FDH	QEH	JF
Diabetes	.71**	.70**	-.48**	.75**	.81**	.23*
Physical activity (PA)	-	.80**	.94*	-.54**	.81**	.32**
Age	-	-	-.65**	.53**	.85**	.50*
BMI	-	-	-	-.26**	-.64**	-.26**
Family Diabetics History (FDH)	-	-	-	-	.61**	.17*
Quick Eating Habits (QEH)	-	-	-	-	-	.45**
Junk foods (JF)	-	-	-	-	-	-

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Prolonged sedentary life style, obesity, less physical activity and less exercise leads to the metabolic syndrome and non communicable diseases. The mean BMI was shown as 26 kg/m² among selected adults. This data prove that the selected Adults were in the overweight category which indicates the lack of physical activity, being unaware of the diet pattern, urbanization and performing sedentary activity.

A majority of 39 per cent (43) are overweight or obese. Thirteen per cent (12) are classified as grade I obese followed by 3 per cent (3) who fall in the category of grade II obesity. Only one person among the selected Adults falls in the category of Grade III obesity. The results of BMI classification clearly point out that overweight and obesity are number one causative factors for non communicable diseases.

Physical activity of the selected Adults was strongly correlated with the body mass index (BMI). This data shows the lack of physical activity and sedentary lifestyle was prevalent among the selected adults. This trend will leads to the incidence of metabolic syndrome and non-communicable diseases later.

Type of diet of the selected adult shows that 86 per cent were non-vegetarian. The selected adults expose three meal pattern seems to be the most predominant diet pattern. Twenty seven per cent had the habit of skipping meals. The eating habits of the selected adults highlights that out of 92 adults 49 per cent have the practice of eating quickly. This may be due to time pressure or they may be eating quickly from childhood itself. One has to give time for the brain to judge and slow eating helps for good digestion and reduces the risk of diabetes. Table VII analyses the food consumption pattern of the selected adults. It was found that rice was consumed as a prime food. Seventy two per cent of the adults consumed green leaves weekly once, vegetables daily, but the quantity was very less. Roots and tubers (potato) were consumed daily basis by 12 per cent of the adults.

Enquiry about consumption of fleshy foods (Non vegetarian) indicated that fleshy foods were consumed weekly once by a majority of the subjects. Poultry consumption (61%) was

greater than other fleshy foods followed by egg at 53 per cent, fish at 40 per cent and red meat 14 percent respectively. The consumption of milk among selected adults was very poor. Eighty nine per cent of them consume sugar and sugar based products daily. Only eight per cent reported that they never consume sugar and jaggery products.

From Table VIII it was observed that the Forty nine per cent of the adults consumed fried items weekly once or twice, 17 per cent had daily and 27 per cent had occasionally. Other junk foods consumed by selected adults are Chat items (40%), baked items (25%), carbonated beverages (24%), pizza (11%), savories (5%) and burger (3%) respectively on an occasional basis.

The data presented in Table IX reveal that all the nutrients are consumed in adequate quantities whereas fibre and iron intake is inadequate. As the intake of green leafy vegetables and whole grains are lower in the daily diet, the fibre and iron contribution is also less.

Diabetes risk was more strongly positively related to Quick Eating Habits. The results suggest that there was a statistical significant associated between Diabetes, Quick Eating Habits, Physical activity, Age, BMI, Family Diabetes History, Junk Foods in selected adults.

4. CONCLUSION

The repercussion of the current examination has drawn out the dietary status of the chose grown-ups. The data indicates that the adults are in the border line of non-communicable diseases such as overweight or obesity, cardio vascular disease, Type 2 diabetes and hypertension. This could be rectified through regular practice of consuming a nutritious and appropriate diet, indulging in physical exercise, practicing yoga and organizing program like nutritional awareness and education to all age groups of the adults.

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