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RESEARCH ARTICLE

**NUTRITIONAL PROFILE OF IT PROFESSIONALS IN ERNAKULAM AND CALICUT AND
THEIR STRESS ASSESSMENT**

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ABSTRACT

Sedentary life has become a prominent feature of the IT professionals. The nutritional adequacy is one of the key determinants of the quality of human resources. No data is available on the nutritional status and stress among people working in IT sectors. The main objectives of the present study were to assess the lifestyle and activity pattern, nutritional profile and stress among IT professionals. Purposive sampling was used to identify the participants—100 IT professionals from Ernakulam and Calicut districts of Kerala state. A semi-structured questionnaire was used to collect all the necessary information for the present study. Anthropometric measurements, biochemical estimations, and stress assessment were also done. The study showed that diet consumed by IT professionals was nutritionally inadequate to meet the RDA. Meal skipping and snacking were prevalent among IT professionals. BMI categorization of the subjects showed a significant increase in overweight (24%) and obesity (10%) among IT professionals. Blood pressure status of the professionals studied revealed that 40 percent of the subjects had different levels of hypertension. Stress assessment indicated the existence of moderate to very high levels of stress among IT professionals. It is evident that new strategies need to be implemented to improve overall wellbeing of the IT professionals.

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INTRODUCTION

Information technology is revolutionizing the way in which we live, work, study, learn, play, and do business. Computers and communications are becoming integral parts of our life and to survive in this information world we must keep pace with these changes. Recent trends in the convergence of technologies have thrown up new opportunities and new services such as IT enabled services, e-commerce, multimedia, etc. Due to changes in life style which is marked with sedentary lifestyle, stress, urbanization, fast food consumption, altered work, etc. The eating pattern of our populace is undergoing a huge transformation and the worst affected category may be the young adults of the age group 18 – 40 years [1]. The daily work schedules of all the IT professionals involve computer work, which revealed a sedentary lifestyle pattern [2]. The Center for Disease Control and Prevention (CDC) estimated that physical inactivity contributes up to 23 percent of all deaths from major chronic diseases. According to Mahan and Stump, responsibilities of working, single parenthood, stress related to long working and commuting hours affect eating habits of young workers [3].

Persistent and unrelenting stress often leads to anxiety and unhealthy behaviours like overeating and abuse of alcohol or drugs [4]. The role of nutrition has expanded significantly and it is now viewed as a tool that can be used not just to prevent deficiency diseases but as a defence against chronic diseases [3]. Several studies were reported on the nutritional status of working people, both at national and state level, but not much about IT professionals. Information regarding the nutritional profile and assessment of stress among IT professionals provide a better understanding of their health status, which in turn would help to modify and develop new strategies for improving the overall health status of IT professionals. Hence the present study has been designed with the broad objective of assessing the nutritional status, lifestyle and activity pattern, and stress among IT professionals.

MATERIALS AND METHODS

IT sectors in Ernakulam and Calicut districts were selected for the study. A total of 100 IT professionals who belonged to the age group 25 to 40 years were purposively selected. An interview schedule was administered to elicit information such as socio-economic details, food preferences and habits, lifestyle and activity pattern, and stress.

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Dietary recall for three consecutive days and a food frequency questionnaire (FFQ) were used for getting the relevant details for the dietary analysis of the respondents. A set of standardized measuring instruments like cups, spoons, bowls etc. were used to gather accurate and quantifiable dietary recalls. These results were cross-verified with the information from FFQ to establish the accuracy of the gathered data. Body measurements like height, weight, BMI, and waist-hip ratio were recorded using standard procedures. The IT professionals studied were categorized into various grades of nutritional status using the WHO standards. Blood pressure (systolic and diastolic) of the subjects was measured and was categorized into different groups suggested by Krause [3]. Stress assessment of IT professionals was done using the scale developed by Fontana [5].

RESULTS AND DISCUSSION

Out of 100 IT professionals studied 57 were males and 43 were females. Maximum number (90%) of subjects was found in the age group of 25–30 years. Forty eight percent of the subjects had a monthly income of more than 25,000 rupees. Eighty eight percent of IT professionals surveyed were married and had working partners.

A. Physical Activity Pattern and Personal Habits

Among 100 subjects surveyed 98 percent of the respondents had sedentary lifestyles. Majority of them daily spent 8 hours or more for computer related work. The main mode of conveyance to office was either company vehicle (40%) or own car (20%). The type of exercise preferred and liked by IT professionals was jogging (41%) followed by brisk walking (20%). Fifty two percent of the respondents did not have any domestic help. Most (92%) of them were satisfied with their job. Sixty two percent of the subjects surveyed had the habit of drinking tea or coffee for refreshment after each work session while some engaged in smoking (25%) or consumed soft drinks (15%). Binge eating was preferred by majority of the IT professionals (57%) and most them liked to binge fried items.

B. Anthropometric Measurements

Anthropometry has been widely and successfully applied to the assessment of health and nutritional risk. The BMI values of IT professionals were computed and categorized based on WHO standards [6] and the results are shown in Table I and illustrated in Figure 1.

Table 1. BMI Distribution of IT Professionals

Sl. No.	BMI kg/m ² *	Category	No of subjects
1.	<16.0	CED* Grade III	0
2.	16.0 – 17.5	CED Grade II	0
3.	17.5 – 18.5	CED Grade I	5
4.	18.5 – 20.0	Low weight Normal	11
5.	20.0 – 23.0	Normal	50
6.	23 – 25	Overweight	24
7.	>25	Obese	10

*Chronic Energy Deficiency

BMI distribution of IT professionals revealed that 50 percent of them were under normal category. Twenty four percent represented overweight and 10 percent belonged to obese group.

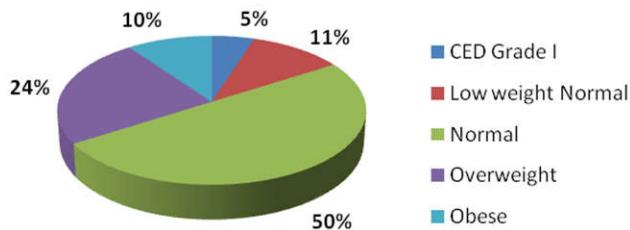


Fig.1. Body Mass Index of IT Professionals

BMI distribution of IT professionals revealed that 50 percent of them were under normal category. Twenty four percent represented overweight and 10 percent belonged to obese group. The least represented BMI category was chronic energy deficiency grade I (5%). According to Krause [3], overweight adults are at increased risk for many acute and chronic diseases, including hypertension, coronary heart disease, gall bladder disease, and some types of cancer.

C. Dietary Practices of the Selected Sample

Study on the dietary practices of the selected sample revealed that 89 percent of IT professionals were non-vegetarians and 45 percent of them daily consumed non-vegetarian foods. It was found that 60 percent of them had 4 main meals per day which included breakfast, lunch, tea, and dinner. Majority (51%) of them preferred fried snacks for tea time. Meal skipping (62%) was prevalent among IT professionals. Among meal skippers majority skipped breakfast and to most of them, the reason for skipping breakfast was lack of time.

D. Nutrient Intake of IT Professionals

The mean nutrient intake of the subjects is given in the Table II. When mean nutrient intake was compared with RDA a deficit of all nutrients except fat was found in women professionals.

Table 2. Comparison of Mean Nutrient Intake with RDA

Nutrients	Women			Men		
	RDA	Mean Intake	% deficit or surplus	RDA	Mean Intake	% deficit or surplus
Energy (Kcal)	2225	2051	-7.8	2425	2416	-0.3
Protein (gm)	50	32	-36.0	60	45.8	-23.6
Fat (gm)	20	40	+100	20	35	+75
Calcium (mg)	400	320	-20.0	400	310	-22.5
Iron (mg)	30	24	-20.0	28	32	+14.2
Carotene (mg)	2400	500	-79.20	2400	800	-66.6
Vitamin C (mg)	40	25	-37.5	40	32	-20.0

Fat intake was very high than the recommended levels among the women IT professionals. In the case of men, the comparison of nutrient intake with RDA revealed that energy, protein, calcium, carotene, and vitamin C intake were below the RDA, while intake of fat and iron were more than the RDA levels. Dietary analysis revealed that the diet consumed by IT professionals was nutritionally poor and inadequate. The reason for the similarity in the nutrient intake pattern across men and women IT professionals was because most of them had similar food consumption patterns and preferences.

E. Blood Pressure

Blood pressure of 30 subjects was measured and the results are presented in Table 3.

Table 3. Blood Pressure of Subjects

Sl. No.	Category	Systolic (mm Hg)	Diastolic (mm Hg)	Subjects n=30
1.	Optimal	<120	<80	5
2.	Normal	<130	<85	13
3.	Hypertension			
	Stage I	140 – 159	90 – 99	6
	Stage II	160 – 179	100 – 109	3
	Stage III	≥180	≥110	3

Majority of the subjects were found to have normal blood pressure. The blood pressure categorization of IT professionals as suggested by Krause [3] revealed that among 30 subjects studied 20 percent had stage I hypertension, 10 percent had stage II hypertension and another 10 percent stage III hypertension. Hypertension is often called silent killer as people with hypertension are asymptomatic for years and then have a fatal stroke or heart attack [3].

F. Stress among IT Professionals

Stress among 100 IT subjects was assessed using the stress assessment scale developed by David Fontana [5]. The results of the test scores are given below in Table 4.

Table 4. Stress Levels of IT Professionals

Sl. No.	Score	Classification	Subject
1.	<5	No stress	28
2.	5 – 10	Moderate stress	22
3.	10 – 15	High stress	40
4.	15 – 21	Very High Stress	18

It was found that majority of IT professionals had moderate to very high stress in life. It was also inferred that both men and women were equally stressed. Forty percent of them agreed that they were highly stressed. Only 28 percent of IT professionals admitted that were not stressed at work or at home. Fast life, changed lifestyles, world of choices, high-price competition in every sphere of activity, low morale and values in life, ego, strike, unrest, and poor human relationships have made stressful life, is the order of the day [7].

SUMMARY AND CONCLUSIONS

The present study was carried out among 100 IT professionals comprising 57 males and 43 males in the age group of 25 to 40 years working in the districts Ernakulam and Calicut of Kerala state. Majority (98%) of IT professionals had sedentary lifestyles. BMI distribution of IT professionals showed that 24 percent belonged to overweight and 10 percent represented obese category. Comparison of nutrient intake with RDA revealed that the diet consumed by IT professionals were nutritionally poor. Blood pressure examination of IT professionals indicated the presence of stage I to stage III levels of hypertension among IT professionals. Stress assessment also showed various levels of stress from moderate to very high among IT professionals. The findings of the present study emphasize the need to design appropriate and effective strategies to improve the overall health, nutrient intake, and lifestyle of IT professionals.

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