



# Study on Nutritional Status and Stress Level of Home Makers (25-40 Years) in Kanyakumari District

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**Abstract:** Housewives often have less time available to maintain their health due to typical homemaking duties, which include maintenance of familial dietary life and child care. Women's social participation has recently increased the number of working housewives, resulting in changes in dietary patterns and also, the use of instant and processed foods has increased for reasons of convenience. The study was focused to find the nutritional status and stress level among the home makers in kanyakumari. The questionnaire in Google form was used to collect the data about socio-demographic profile, anthropometric status, dietary pattern and stress level among 51 homemakers. About 10% of the subjects were underweight, 33% were with normal BMI, 51% overweight and 6 % of the subjects were under grade I obesity. Nutrient intake was analyzed and found that energy, carbohydrate, protein, fibre, iron and calcium was deficit and intake of fat was found to be in excess. Perceived stress scale was used to assess the stress level of selected homemakers and found that 25.49% of the subjects had moderate stress, 31.38% of the subjects were under high stress category and 43.13% of the subjects had very low stress. Nutrition education was provided through e-platform. E-Poster on consequences of obesity, healthy food choices and physical activity was created and posted through e-platform. It was concluded that the nutritional status of the home makers was comparatively low, the stress level was found to be moderate to high and there is no relationship between nutrient intake and stress level.

**Keywords:** Housewife, nutritional status, stress, nutrition education.

## I. INTRODUCTION

Housewives often have less time available to maintain their health due to typical homemaking duties, which include maintenance of familial dietary life and child care. A good mental health is essential for leading a good life effectively if he / she are suffering from stressed and strains and is struggling with mental health problems such as depression or unsteady feeling due to academic, social or mental pressure; with poor mental health one loses overall effectiveness. Dietary life is the fundamental element affecting health maintenance. Individual dietary life is influenced by several environmental factors such as age, education, job, economic level, family status, and residence. Housewives often have less time available to maintain their health due to typical home-making duties, which include maintenance of familial dietary life and child care (Choi and Chung, 2006).

Changes in the dietary intake of housewives, along with decreases in physical activity, have led to the social problem of obesity. Obesity is the over accumulation of subcutaneous or abdominal fat that occurs when energy consumption decreases due to decreased activity. Women 40 and 50 years of age tend to suffer from lifestyle diseases, including hypertension and diabetes, and often have endocrinal disease and health problems after menopause (Sira and Pawlak, 2010)

In a study by Barma and Sil (2013) the nutritional status of the housewives and working women in North Bengal region were compared. A total of 225 house wives (HW) and 225 working women (WW) in between the age of 35 to 45 years were selected randomly from different region of North Bengal and comparison was done between these two groups. Result shown that body fat Percentage (PBF) of WW group was in normal category but for HW group it was over than the normal zone. Result also revealed that HW group was in over weight zone in respect of BMI but WW group was in the normal zone in this category. All the mean difference between these two groups was found statistically significant in this study. From the results it was concluded that in the North Bengal region of India working women (WW) had superior health status than the housewives (HW).

It was reported that women 30 and 40 years of age tend to consume much more fruit, bakery goods, noodles, and beverages as snacks as well as favor processed food, resulting in obesity (Han and Joo, 2005). Also, poor dietary intake among housewives might have a negative effect and stress level on their health status and may lead to diet-related



chronic disease in the future. It will also affect the health status of the family members as they are dependent on housewives because mostly they are the main meal planners of the house. Housewives, who are obese and are at higher risk of hypertension and osteoarthritis. Hence the study aimed to know the nutritional status and stress level of selected homemakers.

## II. METHODOLOGY

The methodology of the study on “Nutritional status and stress scale among home makers in Kanyakumari. Around 51 home makers were the subjects for the present study. The data regarding the socio-demographic profile, anthropometric status, dietary pattern and stress level, were collected through Google forms. The link regarding the goggle form was posted through online platform using E- mail ID and what’s app. The information on age, educational qualification, type of family, size of the family, anthropometric parameters such as height, weight and BMI, waist and hip circumference were received for all the subjects. Dietary pattern like food habits, meal pattern, reason for skipping meals and nutrient intake were also recorded. The nutritive value was calculated for energy, protein, fat, carbohydrate, fibre, iron and calcium using 24 hours recall method. The Perceived stress scale was used to collect the needed information regarding their stress which also affects the food intake of the subjects. Mean and standard deviation was calculated to express the results. The relationship between stress and nutrient intake was analysed by using the statistical tool SPSS version 19 and the results were examined. Awareness on consequences of obesity, healthy food choices and physical activity were created through e-posters which were sent through online platform to all the selected homemakers.

## III. RESULT AND DISCUSSION

### 1. Background information of selected subjects

Nearly 57% of the subjects were between 25-30 years of age, 27% were between 30-35 years of age, 16% belongs to 35-40 years of age. Nearly 8 % of the subjects have the educational qualification less than 10<sup>th</sup> standard, 2% of the subjects had completed 10<sup>th</sup> standard, 9% of the subjects had completed 12<sup>th</sup> standard and about 81% of the subjects were graduated. All the selected home makers monthly family income was between Rs.15000 – 30000.

### Physical activity

Regular physical activity is vital for good physical and mental health. It helps improve your overall health and fitness, maintain a healthy weight, reduce your risk for many chronic diseases and promote good mental health. Physical activity has also been associated with improved psychological health by reducing levels of stress, anxiety and depression. But in our study it was deplorable that none of the selected subjects were involved in any type of physical activity, yoga or exercises stating that they have no time to do physical activity

### 2. Anthropometric status of all the selected home makers

The mean height was reported as  $161.3 \pm 7.75$ cm, weight was recorded as  $63.61 \pm 10.63$ kg, BMI was calculated as  $24.6 \pm 3.78$ kg/m<sup>2</sup>. Waist circumference was mentioned as  $35.76 \pm 7.97$ cm, hip circumference was  $77.007 \pm 10.87$ cm and waist hip ratio was calculated as  $0.9684 \pm 0.121$ cm.

**Table-1: Anthropometric status of all the selected home makers**

Source: WHO 2010

S.No	BMI criteria	Reference	No of subjects (n=51)	
			No	Percentage (%)
1	Under weight	$<16 \text{kg/m}^2$	5	10
2	Normal	$18.5-24.9 \text{kg/m}^2$	17	33
3	Over weight	$25-29.9 \text{kg/m}^2$	26	51
5	Obesity grade I	$>30 \text{kg/m}^2$	3	6
6	Obesity grade II	$35-40 \text{kg/m}^2$	0	0
7	Obesity grade III	40 or higher	0	0
<b>Total</b>			<b>51</b>	<b>100</b>

Obesity among females (21.2%) is a matter of concern, as it is significantly higher than in males (12.4%), though this is lower than the findings of the study in rural Selangor, many other studies have shown higher rates among females (Yunus et al., 2004). Housewives are particularly at risk of becoming obese. The above table shows that 10% of the subjects were underweight, 33% were with normal BMI, 26% overweight, & 6% of the subjects were under grade I obesity.



### 3. Nutrient intake of all the selected subjects -24 hour diet recall

**Table-2: Nutrient intake of all the selected subjects -24 hour diet recall**

Criteria	RDA	Average Intake	Deficit	Excess
Energy (kcal)	1900	1304.36 ± 602.2	595.64	-
Carbohydrate (mg)	225	183.2 ± 42.3	41.8	-
Protein (g)	55	34.27 ± 20.7	20.73	-
Fat (g)	25	42.10 ± 55.2	-	17.1
Iron (mg)	21	12.07 ± 21.2	8.93	-
Calcium (mg)	600	151.2 ± 65.1	448.8	-
Fibre (g)	25	15.36 ± 2.1	9.64	-

Energy intake was analyzed as 1304.36 kcals which was deficit by 595.64 kcal when compared with RDA. The average protein intake per day of the subjects was 34.27g as the RDA is 55g, the deficit of protein intake was 20.73g. The average fibre intake per day of the subjects was 15.36g and was the deficit by 9.64g. The average iron and calcium intake per day of the subjects were 12.07mg and 151.2mg respectively, it was found to be deficit by 8.93mg and 448.8mg. It was found that fat intake exceeds the RDA by 17.1g. Lee and Kwak, (2006) in their study reported that cholesterol intake rates in the underweight, normal, and obese groups were  $369.2 \pm 203.7$  mg,  $304.5 \pm 154.4$  mg, and  $315.8 \pm 160.4$  mg, respectively. In their previous study it was recommended that one's cholesterol intake be under 300 mg daily and 100 mg per 1,000 kcal in order to prevent cardiovascular disease.

### 4. Dietary pattern of the selected home maker

#### (i) Food habit of the selected subjects

Nearly 20% of the subjects were vegetarian, 4% of the subjects were ova vegetarian and 4% of the subjects were lacto vegetarian, and 72% subjects were non vegetarian

#### (ii) Meal pattern of the selected subjects

Around 13% of the subjects took only one meal per day, 16% of the subjects had two meals per day, 67% of the subjects had three meals per day and 4% of the selected subjects took four or more than four meal per day

#### (iii) Skipping meals, frequency and reason of skipping meals

Lim and Na (2008) reported that 43.7% of subjects eat breakfast and 39.8% of subjects do not eat breakfast because they are too busy, which is similar to the results of the present study. In our study 96% of the subjects skipped meals and 21.2% of the subjects followed their regular meal timings. It was recorded that nearly 44% skipped meals due to lack of time, 28% skipped meals because of stress, 18% due to lack of appetite, and 10% because of fasting

#### (iv) Food allergy among the selected subjects

It was reported that among the selected subjects 24% had food allergy towards brinjal, soya (2%) and fish (14%) and 60% of the subjects not had any allergic reactions towards food.

#### (v) Intake of fruits and vegetables

Only 34% of the selected subjects preferred one serving of fruits daily, weekly thrice by 51%, and weekly once by 15%. Most of the selected subjects (98%) included vegetables in their daily menu.

### 5. Stress level among home maker

The individual scores for the perceived stress scale can range from 0-40, whereas 0-13 would be considered as low stress, 14-26 would be considered as moderate stress and 27- 40 indicate higher stress. It is clear that 64% of the subjects were under moderate stress, 36% of the subjects were under high stress and none of the subjects have very low stress.

### 6. The correlation between stress and BMI

Several studies have demonstrated heterogeneity in eating behaviors in response to stress; some people eat more when stressed while others eat less. Goswami (2017) in this study stated that in his study there is a strong correlation between psychological stress and body weight, greater the psychosocial stress more is the body weight. We have tried to correlate stress scale and BMI and found that there is a strong correlation between stress and BMI, which is shown in Table 3.

**Table-3: Correlation between stress and BMI of the selected subjects**

Stress Scale	BMI
Difficulties Can't Overcome Them	-0.002
Upset Happened Unexpectedly	-0.190



Unable to Control Things Life	0.224
Nervous and Stressed	0.192
Deal Day to Day Problems	0.187
Changes Occurring in Life	0.154
Confident Ability Handle Personal Problem	0.076
Confident Things Go in Your Way	0.109
Copy Things had To You	0.210
Control Irritation in Life	0.256
Things Have to Accomplish	-0.175

### 7. Provision of nutrition education to all the selected subjects

Nutrition education through e-poster was planned and provided to all the selected home makers. E-Poster was prepared to creating awareness on consequences of obesity, healthy food choices and importance of physical activity. Poster was sent to all the respondent's mail ID and whats app number. This e-poster will help the selected subjects to maintain anthropometric status, initiate physical activity, to regularize the meal pattern, nutrient intake and healthy food choices

### IV. CONCLUSION

It is vital that not to consume excessive amounts of nutrients. As the study population was low, various studies are recommended to assess dietary habits, diagnose health status and Intervention programs should be developed to enable maintenance of physical health among the homemakers. The present study shows that the nutritional status and stress scale among home makers are comparatively low and the stress level is moderate to high. This may be due to the stress on house hold work and skipping of meals. There is relationship between Anthropometry status and stress level, because home makers are stress and worried of obesity because they are skipping their meals doing all other house hold works they had no time for having their meals at right time.

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