

# Promoting A Healthy Diet Through Counseling In Women Professionals

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## Abstract

Health and nutritional status of an individual depends on the food they eat. The components of the diet must be chosen judiciously to provide all the nutrients needed in adequate amounts and proportions. A normal balanced diet must include daily foods from the various food groups in sufficient amounts to meet the needs of an individual. Foodstuffs selected from each group should take into account the income, socio-cultural factors, availability and nutritional requirements. Selection of foods from the different food groups also results in variety in the diet, which not only ensures nutritional adequacy but also increases food acceptability. The counseling used as an intervention in this study was imparted to enhance the knowledge of the respondents about consumption of a balanced diet and to make their diet nutritionally adequate. The historical findings show that the female's intake of nutritious diet is comparatively less than that of males.

## INTRODUCTION

Females are more prone to diseases than males (Kaur, 2002). Eating disorders are very painful responses to stress and other destructive factors in a woman's life (Radcliffe, 2002). Many women tend to eat more under increased pressure due to release of the hormone cortisol. They chose more sweet foods during periods of stress (Kelly et. al, 2001). Women not living with spouse tend to have lower density of iron, vitamin D and lower consumption of vegetables and fish. It is possible that they pay less attention to meal preparation (Woo et. al, 1999).

Women with deficiencies of folic acid and other B-vitamins are at an increased risk of cardio-vascular diseases (Stoney, 1999). Wertheim et. al (1997) revealed that young women are experiencing a strong socio-cultural pressure to be thin. Schaefer et. al (1997) reported that inter-personal difficulties in the marriage produce perceptions and attitudes that may lead to less healthy dietary behaviors. It was reported by Zive et. al (1996) that deficient intakes of essential nutrients such as calcium, iron, magnesium, zinc, folate, vitamin A, vitamin B<sub>6</sub>, vitamin C, were found more in large proportion of young women than young men. A faulty diet can certainly be a source of stress and this leads to the formation of poor dietary habits. Stressed out, tense individuals often eat excessively or compulsively to reward themselves or to provide some distraction from their problems. Stress

frequently interferes with adhering to a proper diet, especially for busy mothers. It can be a major contributor to obesity. However, being obese can also be stressful, leading to a vicious cycle (Rosch, 1995). In his study after examining the relationship between obesity, dieting and eating disorders, Ponto (1995) found out that failure to stay on a diet could cause stress to the dieters. It was reported that as the nutritional adequacy of the diet rises, the percentage of times as many women as energy from fat also tends to rise slightly, implying selection of higher fat sources of nutrients. Higher income group women have an increasing tendency to become fat (Popkin et. al, 1995). Some women might suffer from reactive hypoglycemia. This can cause sugar craving, depression, weakness and fatigue. It can also stimulate the release of adrenaline in an attempt to normalize glucose levels, resulting in jittery feelings, palpitations and headache. Eating five or six small meals at spaced intervals, high in proteins and low in carbohydrates may produce gratifying relief (Rosch, 1995). The consumption of fruits and dairy products also increases with education level. Increasing fat intake as a percentage of total calories is considered a risk factor for coronary heart disease (Murphy et. al, 1992).

## OBJECTIVES OF THE STUDY

The objectives of the present study are as follows:

- To assess the nutritional status and dietary patterns

of the working women.

- To impart counseling for maintaining adequate nutritional status and improve the dietary patterns of the working women.
- To evaluate the impact of counseling on the nutritional status and dietary patterns of the professional women.

### SAMPLING TECHNIQUE AND SELECTION OF SAMPLES

A number of 150 women professionals in the age group 25-55 years were selected from various professions. They were from different income groups. Their marital status could be single/married/divorced/widows. The places selected for conducting the present study were cities of Yamunanagar, Jagadhri, Kurukshetra, Chandigarh and Panchkula. Purposive sampling was used to select the respondents. In some cases the respondents had to be convinced to actively participate in the research work. A meeting was arranged with the selected respondents to confirm their participation in the study. Women selected for this study were assured of absolute anonymity.

#### Figure 1

Distribution of respondents according to their profession

S.NO.	Profession	Yamunanagar	Jagadhri	Kurukshetra	Chandigarh	Panchkula
1	Doctor	5	5	5	5	5
2	Lecturer	5	5	5	5	5
3	School teacher	5	5	5	5	5
4	Principal/Director	5	5	5	5	5
5	Typist/Nurses	10	5	5	-	5
6	Fashion designer	5	5	-	10	5

The survey method was used to gather information for the study. Based on the objectives of the study, the Standardized Questionnaire was distributed. It was administered to the respondents before counseling and then again three months after counseling.

### ANTHROPOMETRIC MEASUREMENTS

They involve obtaining physical measurements of an individual and relating them to the standards that reflect the growth and development of an individual. These measurements are used to find the nutritional status of a person. In the present study, the anthropometric measurements used were:

- Weight
- Height
- B.M.I

**Weight:** A weighing machine of maximum capacity of 120 Kg. and a minimum division of 0.5 Kg. was used to take the weight of the respondents. Weighing machine was placed on levelled ground and scale was set to zero and then the weight of the respondents was measured standing barefoot on the weighing machine with minimum clothing and looking straight ahead. Weight was recorded to the nearest 0.5 Kg.

**Height:** Body height was measured using a measuring tape, which was fixed to the wall. The subjects were made to stand straight with the head held erect; hair flattened, feet together, knees straight and heels, buttocks and shoulder blades in contact with the vertical surface of the wall. Arms were hanging loosely at the sides with the palms facing the thighs. A mark was made on the wall with a flat object touching the top of the head horizontally. Height was measured using a good measuring tape and was recorded to the nearest 0.1centimetres.

**B.M.I:** Body Mass Index (B.M.I) was calculated using the following formula

$$\text{B.M.I} = \text{Weight (Kg.)} / \text{Height in metres}^2$$

Grading of B.M.I:

Grading of B.M.I was done by the Normogram for determining B.M.I (Wyngaarden, 1992, cited in SriLaxmi, 2002)

Underweight <18

Normal 18.1-24

Overweight & Obese >24

### DIETARY SURVEY

Dietary survey was carried out in the following steps with the help of a questionnaire:

a) Assessment of food consumption by 24-hour recall method: The respondents were asked to recall all the foods eaten during the reference time period and describe the foods consumed. After nutritional counseling, the respondents were contacted after three months and a 24-hour dietary recall was again done for one week to find out the changes in their dietary pattern. The amounts of food eaten were noted using standardized spoons, glasses and katories for measurement of the foodstuffs.

b)The mean daily intake of nutrients like energy, proteins, carbohydrates, fats, fibre, calcium, iron, zinc, ?-carotene, Vitamin C, Thiamine, Riboflavin and Niacin was calculated with the help of Food composition tables and compared to

the I.C.M.R recommended R.D.A values for adult women (Gopalan et al, 2002) . The mean daily intake of different food groups like cereals, pulses, milk and milk products, vegetables, fruits, fats, oils, sugar and jaggery was also calculated. Three months after counseling and distribution of the handout, the questionnaire was again distributed among the respondents. This was done to judge the role of nutritional counseling in making the meals balanced.

STATISTICAL ANALYSIS OF THE DATA

The analysis of the data was done with the help of a number of tests as Percentage, Arithmetic Mean, Standard deviation, t- test, Chi square (?2) and Karl Pearson's correlation coefficient.

RESULTS AND DISCUSSION

Figure 1 and 2 show the dietary patterns of women professionals before and after counseling. The diet was unbalanced before counseling but improved little after counseling for three months.

Figure 2

Figure 1

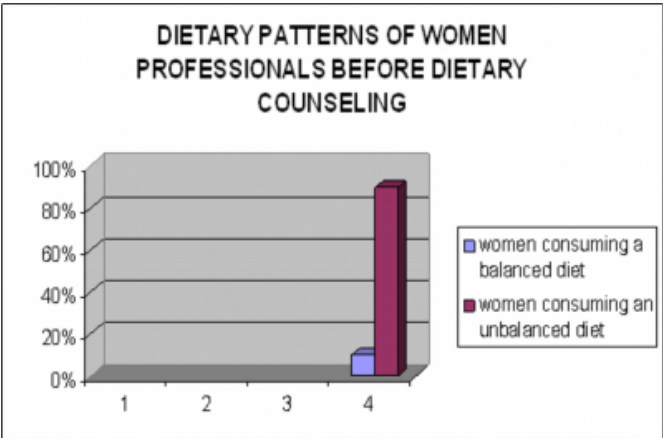


Figure 3

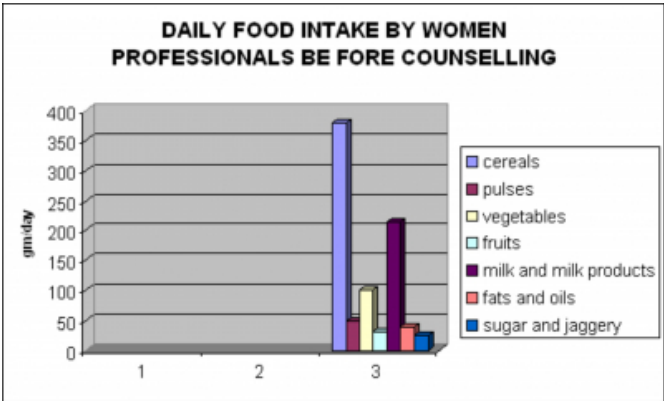
Figure 2



Figure 3 and 4 show the mean intake of different food groups by women professionals. Before counseling the intake of cereals, pulses, fats, oils, sugar was more but after counseling, the diet became more balanced with the respondents taking more of vegetables, fruits, milk and milk products and less of cereals, pulses, fats, oils and sugar.

Figure 4

Figure 3



**Figure 5**

Figure 4

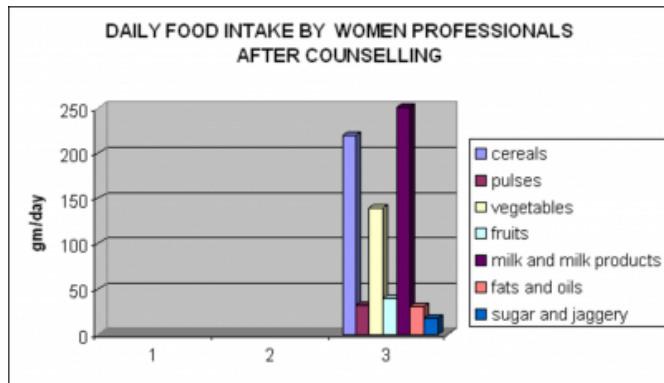


Table 1 and 2 show the mean food and nutrient intake of women professionals before and after nutritional counseling with reference to the Recommended Dietary Allowances (R.D.A.).

**Figure 6**

Table 1

Food groups(gm/day)	R.D.A.	BC	AC
Cereals	375	380	245
Pulses	40	48	39
Vegetables	180	100	145
Fruits	50	30	40
Milk and milk products	200	212	240
Fats and oils	20	38	30
Sugar and jaggery	20	25	22

**Figure 7**

Table 2

Nutrients	R.D.A.	BC	AC
Energy,K.cal	1875	2020	1895
Carbohydrate, g	250-300	325	296
Protein, g	50	56	68
Fat,g	50-60	68	56
Fibre,g	10-12	18	30
Calcium,mg	400-500	860	880
Phosphorus, mg	400	1260	1290
Magnesium,mg	350	315	330
Iron,mg	30	22	28
Zinc,mg	15.5	6.2	10.2
Thiamine,mg	0.9	1.2	1.6
	1.1	1.2	1.35
Riboflavin, mg			
Niacin, mg	12.0	10	12.3
Vit.C, mg	40	56	64
β- carotene, µg	2400	2420	2485

Table 3 shows the Anthropometric measurements of the women professionals by comparing the mean observed weight before and after counseling. Most of the respondents had normal weight. Few who were underweight or overweight increased or reduced their weight by a few kilos

during the span of study. The respondents who had normal weight , were under less stress and had better mean coping strategies , which improved further after counseling. Respondents who were overweight had higher mean stress score and lower coping scores.

**Figure 8**

Table : 3 Comparison of mean weight of the women professionals with the I.C.M.R. standard before and after counselling

I.C.M.R. std. for height (cm)	I.C.M.R. std. for weight (kg)	S.NO.	Group	Obsd. height (cm)	Obsd. weight BC (kg)	Difference with reference to I.C.M.R. standards (kg)	Obsd. weight AC (kg)	Difference with reference to I.C.M.R. standards (kg)	B.M.I BC	B.M.I AC	Difference between B.M.I BC & AC
148	46.5	1	Doctor (n=25)	160	52	-0.5	52	-0.5	20.31	20.31	nil
152	48.5										
156	50.5	2	Lecturer (n=25)	160	46	-6.5	48	-4.5	17.96	18.75	0.79
160	52.5										
164	55	3	S.Teacher (n=25)	162	58	1.5	57	0.5	22.13	21.75	-0.38
168	58										
172	60.5	4	Principal / Director (n=25)	160	52	-0.5	52	-0.5	20.31	20.31	nil
176	64										
180	67										
184	70.5	5	Typist / Nurses (n=25)	154	55	5.5	55	5.5	23.2	23.2	nil
188	74										
		6	Fashion Designer (n=25)	157	47	-4.5	48.5	-3	19.1	19.71	0.61

## CONCLUSION

Nutritional counseling is an important primary intervention, which should provide the woman with the basis for action in choosing the appropriate diet for herself and her family. The consumer would more easily understand the guidance and counseling in terms of foods if more familiar language were used. The major problem to be faced is the quantification of the advice. It is necessary that when counseling is imparted in terms of food, the relative proportions of different foods within the dietary mixture should be specified. There are a variety of dietary interventions that can relieve or help prevent particular types of stressful responses. Eating well, drinking lots of water, consuming fresh fruit, vegetables boosts energy and water helps the body to function properly. Sugars give quick energy but would be later replaced by a shortage of energy. Higher levels of education appear to be associated with a healthier dietary pattern in relation to chronic diseases. Women with higher education level had lower mean body mass index (B.M.I).

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