

Prevalence of Lifestyle Diseases and the Impact of Nutrition Education Programme among the Professionals of Corporate Sector

M. Seema

Department of Home science, Mother Teresa Women's University, Chennai – 15, Tamilnadu, India

Abstract: *Lifestyle diseases are associated with the way a person or group of people lives. Higher income and work pressures along with sedentary nature of job have made young Software professionals prone to modern lifestyle diseases like obesity and other health problems which can be lowered with changes in diet, lifestyle, and environment. The present research was designed to study the prevalence of lifestyle diseases and the impact of nutrition education programme among the professionals of corporate sector. The nutritional status of the employees was assessed by selected anthropometric measurements before and after the nutrition education programme. The results obtained were analyzed and subjected to student's t test and significant difference was compared with the control group who did not receive the nutrition education programme.*

Keywords: IT Industry, Software Professionals, Lifestyle Diseases, Health Problems, Nutrition Education Programme

1. Introduction

Development of software industries is one of the most speculated achievements of the Indian economy. The software industry with its effective strengths and potentials has been recognized all over the world due to its outstanding technological advancements as well as for receiving significant impacts of global recession. India being the forerunner in the software development and testing, the software industry was touted as a magic wand that will ward off unemployment and on the other hand, it has led to emergence of new spurts of occupational health problems (Roopa, 2011). Number of studies has argued that software profession has become an increasing stressful place to work because of the increasing demands and constraints (Rajeswari, 2005). There are innumerable studies which state the prevalence of lifestyle diseases, health problems among the software professionals. Proper nutrition education and awareness will prevent and reduce the presence of these diseases and increase the work productivity. This study alarms the increasing morbidity pattern of these populations and the importance of proper nutrition education.

Review of Literature

Software professionals perform boundary-spanning activities, and thus need strong interpersonal, technical, and organizational knowledge to be professionally competent as the field demands it. They have to perform in a demanding work environment characterized by strict deadlines, differing time zones, interdependency in teams, increased interaction with clients, and extended work hours. The Software professionals have thus awakened to a group of modern Occupational diseases, which have slowly taken its roots (Prasanna, 2008).

The Software population has become highly sedentary with related discomfitures. There are innumerable evidences from literature for eye strains, back discomforts, hand and wrist problems like carpal tunnel syndrome. Above all they

are extremely stressed with the risk involved with time and target pressures. Industrialization in India and in other countries has led to the widespread adoption of 24 hour continuous operations in a number of industries. This has resulted in an increase in the proportion of the population routinely engaged in shift work (Chitrotpala devadarshini et al., 2011). The irregular working hours; interrupt the daily routine of the workers. Regular eating and exercise habits are difficult to maintain. An unhealthy lifestyle often leads to being overweight and contributes to circulatory diseases, diabetes mellitus and various forms of cancer. Lack of exercise is closely associated with food related ill health (Chee, 2004).

Aspects of work organization notably work scheduling can greatly affect health. For example, working long hours or night shifts reduces sleep quality and quantity, leading to fatigue and chronic health problems. Studies of employed men show associations between lack of time and low physical activity, as well as between stressful work and overeating (Harnack et al., 2010). Shift-working populations have been associated with a higher propensity to develop long-term nutritional and metabolic problems, such as obesity and altered nutritional metabolism. Some studies have reported that diabetes, insulin resistance, and dyslipidemias also tend to occur more frequently in shift workers (Padilha, 2010). This industry brought about a new work culture and lifestyle with the professionals with associated problems (Sathyamoorthy, 2004).

2. Materials and Methods

The research was carried out among the employees of various software companies in Chennai, Tamilnadu, India. A group of two hundred adults were selected for the research and this included the employees belongs to the category of programmers, developers, project managers etc. The initial nutritional assessment was done by selected anthropometric measurements and the impact of nutrition education programme was studied after the final assessment of the subjects. The results obtained were analyzed and

subjected to student's t test and the significant difference was compared with the control group.

3. Results and Discussion

Analysis of data

Table 1: Comparison of the selected mean anthropometric measurements of the subjects in the experimental group before and after nutrition education programme

| Group | Variable | Mean \pm SD | | t' Value | Level of significance |
|--------------------|-------------------------|-------------------|--------------------|----------|-----------------------|
| | | Initial | Final | | |
| Experimental Group | Body weight(Kgs) | 78.56 \pm 5.38 | 76.04 \pm 4.46 | 5.43* | 1% |
| | BMI(kg/m) | 26.06 \pm 1.79 | 25.26 \pm 1.507 | 5.11* | 1% |
| | Waist circumference(cm) | 90.57 \pm 5.23 | 87.88 \pm 5.317 | 16.98* | 1% |
| | Hip circumference(cm) | 97.4 \pm 4.58 | 95.924 \pm 4.413 | 8.81* | 1% |
| | Waist to Hip Ratio(cm) | 0.929 \pm 0.030 | 0.915 \pm 0.030 | 6.88* | 1% |

Values are expressed in terms of Mean + S.D

* - Significant at 1% level

NS - Non-Significant

The results indicated that the subjects in the experimental group had experienced weight loss at the end of nutrition education programme. Before the nutrition education programme the mean body weight of the subjects were 78.56 \pm 5.38 and at the end of the nutrition education programme were 76.04 \pm 4.45kg. The reduction in the body weight was statistically significant ($p < 0.01$). The BMI of the subjects before nutrition education programme was

The data regarding the selected anthropometric measurements of the subjects such as body weight, body mass index, waist circumference, hip circumference, waist to hip ratio are analyzed statistically and the results are illustrated in Table 1.

26.06 \pm 1.79 and at the end of nutrition education programme it was 25.26 \pm 1.507, (kg/m²). There has been a significant reduction in the BMI ($p < 0.01$). It can be inferred from the above table that the anthropometric measurements such as waist circumference, hip circumference, waist to hip ratio had a significant reduction after the nutrition education programme which were statistically significant ($p < 0.01$).

Table 2: Comparison of the mean anthropometric measurements of the subjects in the control group before and after nutrition education programme

| Group | Variable | Mean \pm SD | | t' Value | Level of significance |
|---------------|---------------------|-------------------|------------------|----------|-----------------------|
| | | Initial | Final | | |
| Control Group | Body weight(Kgs) | 80.66 \pm 4.94 | 80.47 \pm 5.61 | 0.681 | NS |
| | BMI(kg/m) | 26.97 \pm 1.65 | 26.73 \pm 1.87 | 0.684 | NS |
| | Waist circumference | 90.57 \pm 5.231 | 90.06 \pm 5.43 | 2.04925 | NS |
| | Hip circumference | 97.26 \pm 4.452 | 96.5 \pm 4.602 | 3.48345 | 1% |
| | Waist to Hip Ratio | 0.931 \pm 0.031 | 0.933 \pm 0.02 | 0.79942 | NS |

Values are expressed in terms of Mean + S.D

* - Significant at 1% level

NS - Non-Significant

The results indicated that the subjects of the control group showed any significant difference in the selected anthropometric measurements such as body weight, body mass index, and waist circumference, waist to hip ratio before and after the nutrition education programme. The significant difference was noted only in the hip circumference ($p < 0.01$). Anthropometric measurements provide the universally acceptable and non invasive technique for assessing the size, proportion and composition of the body. It reflects health and nutritional status and predicts health performance and survival (Bhadra et al., 2000).

4. Conclusion

These are different from other diseases because they are potentially preventable, and can be lowered with changes in diet, lifestyle, and environment. The subjects in the experimental group show statistically significant difference ($p < 0.01$) in the selected anthropometric measurements such as body weight, body mass index, waist to hip ratio etc, when compared with the control group. It can be concluded

that the nutrition education programme had a beneficial impact on the nutritional status of the employees. Hence proper nutrition education is needed to create awareness among these populations of corporate sector, the highest earning sector in India to increase the work productivity and to prevent the incidence of lifestyle diseases.

5. Acknowledgement

I thank my research supervisor Mrs. Yamunadevi. P, Assistant Professor, Mother Teresa Women's University, Chennai, Tamil Nadu, India for her continuous support and guidance.

6. Recommendation for Further Research

Nutritional status of the employees can be assessed with the biochemical parameters. Nutrition supplement can be given to the subjects, along with the nutrition education programme.

References

- [1] Bhadra M, Mukhopadhyaya A and Bose K. Overweight and obesity among adult Bengali women of Kolkata. Human ecology. Special issue.no13:77-83; 2000.
- [2] Chee HL, Kandiah M, Khalid M, Shamsuddin K, Jamaluddin J, Nordin NA, Shuib R, Osman I. Body mass index and factors related to overweight among women workers in electronic factories in Peninsular Malaysia. Asia Pac J Clin Nutr.2004; 13:248-54.
- [3] Chitrotpala devadarshini , B. Kasturiba , Nirmala yenagi , Nutritional status of shift workers, Karnataka J. Agric. Sci.,24 (4) : (612-615) 2011.
- [4] Harnack LJ, Jeffery RW, Boutelle KN. 2010. Temporal trends in energy intake in the United States: An ecologic perspective. Am J Clin Nutr71:1478–1484.
- [5] Padilha HG, Crispim CA, Zimberg IZ, et al. Metabolic responses on the early shift. Chronobiol Int .2010;27:1-13.
- [6] Prasanna KB. Software industry in India. Gender related issues. New horizons of family and Community Science. Felicitation vol. Kerala University Cooperative press. Trivandrum: 2008; 45-46.
- [7] Rajeswari K. S., R. N. Anantharaman Role of Human-Computer Interaction Factors as Moderators of Occupational Stress and Work Exhaustion International Journal of Human-Computer Interaction 2005, Vol. 19, No. 1, Pages 137-154.
- [8] Roopa G.S, Maansi.B, Yalamalli, Shweta.K.M, Bruxism: Prevalence among Software Professionals, Int. Journal of Clinical Dental Science , MAY, 2011 , 2(2) .
- [9] Sathyamoorthy S Lifestyles can lead to obesity. Times of India. 22nd Sept; 2004.

Author Profile



M. Seema did M.Sc., M.Phil. Her area of specialization is Food Service Management and Dietetics. She did M.Phil. in Foods and Nutrition from Mother Teresa Women's University, Chennai. She worked as Dietician in Apollo Hospitals, Chennai, Tamilnadu, India. And worked as Lecturer in Seethalakshmi Ramaswamy College, Thiruchirappalli. Her interest includes research in clinical and community nutrition.