5. SUMMARY AND CONCLUSIONS

The present investigation, “Development, Implementation and Validation of Intervention Package for Cardiac Patients” was undertaken to assess the nutritional status of the cardiac patients from two selected hospitals of istt Kangra. The main emphasis of the study was to assess the nutritional status of the cardiac subjects and their knowledge regarding the role of nutrition in cardiac disease, then to develop intervention package containing various audio/visual aids and finally, to implement this package on selected cardiac patients.

Cardiac disease includes several abnormalities of the heart and its function in maintaining blood circulation. Many unmodifiable (genetic, age etc) and modifiable (life style, eating habits etc) factors which are involving in the etiology of coronary heart disease. The common masses are mostly ignorant about these modifiable factors. However, modern allopathic system of medicine is greatly accepted in the treatment of heart disease throughout the world, but the medical treatment is getting expensive day by day and getting out of the reach of majority chunk of population. Moreover, drugs are less preferred due to their side effects and are prescribed only in treating severe cases. It is therefore, important to concentrate on modifiable factors which can reduce the risk of developing cardiac diseases.

Objectives of the Study

4) To assess the Nutritional status of the Cardiac patients.

5) To Develop, Implement and Validate the Intervention Package for Cardiac patients.

6) To formulate suitable Recipes for Cardiac patients.
Technical Plan of Work

Research work of the present study was performed in two selected hospitals and Postgraduate Laboratory, Department of Food Science and Nutrition, College of Home Science, CSK HPAU, Palampur. A target group of diagnosed cardiac patients were selected by consulting the medical officer. Basic information regarding socio-economic status, educational level type of treatment undertaken, dietary habits, anthropometric measurements, smoking and alcoholic habits etc. were obtained from the subjects. A sample 30 volunteers was selected for implementation and validation of the intervention package. Many therapeutic food material viz bottle gourd, aloe-vera, arjuna bark, geloy linseed, oat and dalchini were also used for the preparation of suitable recipes for the cardiac subjects.

Major findings of the Study

1. Cardiac disease varied significantly (P≤0.01) with respect to family income, majority of subjects were illiterate (28%), living in a joint family (53%) with small size family (53%) and 60 per cent subjects had a rural residency and maximum (37%) subjects belonged to backward class.

2. Dietary pattern of the subjects varied significantly (P≤0.05) with RDA for the cardiac patients. Before the onset of disease, daily intake of cereals, roots and tubers, visible fat, sugars and meat and meat products were found to be much higher than RDA. The intake of these food groups were significantly reduced after the onset of disease. But daily intake of cereals and visible fat even after the onset of disease was found to be higher than RDA.

3. The average intake of energy, carbohydrates, fat and protein was significantly reduced after the onset of disease but still higher than RDA.

4. Anthropometry measurement had a significant role in developing a cardiovascular disease. According to BMI measurements, majority of female subjects (32%) had grade I obesity with mean value of 28.92±1.72 and 58.4 per cent (22.53±1.45) male subjects fall under the normal range of BMI classification. Among them about 52.83 per cent male subjects had a per cent body fat with a mean value 23.47±1.34 and majority of female (44.68%) had a body fat of 33.87±1.16 and were categorized under stout.
5. On the basis of WHR, 34 per cent of male subjects with the mean value of 0.90±0.06 and 80.7 per cent of female subjects had a lower body obesity

6. A significant (P<0.01) relation was found between heart disease and family history of subjects. Among the subjects below 50 years of age, majority 52.5 per cent, 57.5 per cent and 42.5 per cent had a positive family history of cardiac disease, diabetes and hypertension, either single or both parents were suffering from disease.

7. Diagnostic symptoms revealed that majority(18%) of patients experienced breathlessness. Maximum number of subjects also suffered from hypertension (52%) and diabetes (51%).

8. Sedentary life style was a common factor observed in 50 per cent of the subjects among them majority(36%) had a body weight ranging between 65.1-75 kg, only 32 per cent subjects liked to do physical exercise and about 42 per cent used to take walk daily for ½ to 1 hour.

9. There was significant (P≤0.01) effect of age on lipid profile levels. Subjects under the age of 50 years, majority 40 per cent and 50 per cent had a total cholesterol and triglyceride value under the risk of border line. Among them 80 per cent were found to be under stress and had family as well as professional related stress. Their personal habits revealed that 37.5 per cent were smokers while 32.5 per cent were alcoholic.

10. Intervention package for cardiac subjects was proved successful. There was significant (P≤0.01) increase in knowledge level regarding heart disease and regarding heart disease and nutrition, was found after counseling of patients. Mean gain in knowledge regarding heart disease and regarding heart disease and nutrition was found to be higher in male subjects(5.94 and 8.17) than female subjects (4.62 and 5.84) respectively.

11. Development of some suitable recipes by using some important therapeutic ingredients like bottle gourd, aloe-vera, linseed, arjuna bark, oat, dalchini and geloy as they were accepted by selected cardiac subjects, as they all are known for hypocholesterolemic effects.

Recommendations

1. Cardiac subjects should be encouraged to control their body weight and should reduce high fat and caloric intake, which are essential factors in the treatment of cardiac disease.
2. As is evident from the findings, intervention package with audio visual aids is a good strategy to bring about dietary modification and behavioral changes in patients. It should be part of intervention programs because they have more impact among the illiterate group of the society.

3. Therapeutic food ingredients like *arjun chal, linseed, dalchini, oat, aloe-vera* etc should be incorporated into one’s daily routine diet.

   Improved care programs and counseling of cardiac subjects, imparting nutritional knowledge may find solution to overcome with this deadly problem.