

Management Approach of Nature Cure
in Diabetes Mellitus, Hypertension,
Peptic Ulcer and Obesity

By

Sahmya, A.

A THESIS SUBMITTED TO THE AVINASHILINGAM INSTITUTE FOR HOME SCIENCE
AND HIGHER EDUCATION FOR WOMEN (DEEMED UNIVERSITY) COIMBATORE-641 043,
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE

MAY 1992



Acknowledgement

ACKNOWLEDGEMENT

The author records her heartfelt thanks to **Tmt. K. S. SAROJINI, M. Sc., M. Ed (Madras) M. Phil. (Bharathiar)** Department of Food Service Management and Dietetics, Avinashlingam Institute for Home Science and Higher Education for Women for her valuable guidance and assistance in conducting this study successfully.

The author wishes to record her deep sense of gratitude to **Dr. (Tmt) PARVATHY EASWARAN, M.S (Columbia) Ph.D (Madras)** Head of the Department Food Service Management and Dietetics, Avinashilingam Institute for Home Science and Higher Education for Women (Deemed University) for her valuable suggestions in conducting this study.

The author acknowledges her thanks to **Dr. (Tmt) PADMASHRI RAJAMMAL P. DEVADOS, M.A., M.Sc., Ph.D (Ohio state) D.Sc. (Madras),** Vice-Chancellor, Avinashilingam Institute for Home Science and Hr Education for women (Deemed University) and **Dr. (Tmt) LAKSHMI SANTA RAJAGOPAL, M.S (Tennessee), Ph.D. (Madras),** Dean Faculty of Home Science for giving this unique opportunity to further her knowledge in this subject.

Special mention has to be made here about **Dr. KRISHNASAMY GOUNDER,** founder R K. Nature Cure Home, Ganapathy, Coimbatore and also **Dr. B. BHARGAVA, N.D.** of the

Nature Cure Home for their co-operation and assistance rendered in doing this research.

In conclusion, the author expresses her thanks to her parents and friends for their hearty co-operation and encouragement.

Contents

CONTENTS

CHAPTER		PAGE NO
	LIST OF TABLES	
	LIST OF FIGURES	
	LIST OF APPENDICES	
I.	INTRODUCTION	1
II.	REVIEW OF LITERATURE	6
A.	NATURE CURE IN INDIA AND ABROAD HISTORY AND PRESENT PICTURE	
B.	MAGNITUDE OF THE HEALTH CARE PROBLEMS OF DIABETES MELLITUS, HYPERTENSION, PEPTIC ULCER AND OBESITY	
C.	ROLE OF NATURE CURE IN THE MANAGEMENT OF THE FOUR MAJOR DISEASES.	
III.	METHODOLOGY	15
A.	SELECTION OF THE SUBJECT	
B.	STUDY OF NATURE CURE TREATMENT IN TERMS OF	
1.	DURATION AND	
2.	OTHER TREATMENTS GIVEN	
C.	ELICITING THE PATIENTS' VIEWS ON NATURE CURE TREATMENTS	
IV.	RESULTS AND DISCUSSION	18
A.	BACKGROUND INFORMATION OF THE PATIENTS	
B.	MEAL PATTERN AND NUTRITIVE VALUE OF PATIENTS' HOME DIET AND THE DIET PROVIDED IN THE NATURE CURE HOME.	
C.	IMPACT OF NATURE CURE TREATMENT IN TERMS OF	

1. THE INITIAL AND FINAL BLOOD
PICTURE AND WEIGHTS OF THE PATIENTS
2. OTHER TREATMENTS GIVEN IN THE HOSPITAL
- D. VIEWS OF THE PATIENTS REGARDING
NATURE CURE TREATMENTS
- V. SUMMARY AND CONCLUSION

49

BIBLIOGRAPHY

APPENDICES

LIST OF TABLES

- I. DETAILS OF THE AGE OF THE PATIENT
- II. PERIOD FOR WHICH THE PATIENTS HAVE THE DISEASES
- III. DURATION OF NATURE CURE TREATMENT
- IV. FAMILY MEMBERS OF THE PATIENTS WHO HAD THE SAME DISEASE
- V. FOODS RESTRICTED BY THE PATIENTS
- VI. BEVERAGE CONSUMPTION OF THE PATIENTS
- VII. DETAILS ON THE PERSONAL HABITS OF THE PATIENTS
- VIII. TYPE AND AMOUNT OF FAT CONSUMED BY THE PATIENTS
- IX. OUTSIDE EATING
- X. IRREGULAR MEAL PATTERN OF PATIENTS
- XI. PERFORMANCE OF EXERCISE
- XII. THE HOME DIET OF THE PATIENTS
- XIII. MEAN NUTRITIVE VALUE OF PATIENTS' HOME DIET
- XIV. DIET GIVEN IN THE NATURE CURE HOME FOR DIABETES MELLITUS
- XV. THE MEAN NUTRIENT INTAKE OF DIABETIC PATIENTS FROM HOME AND NATURE CURE HOME DIETS.
- XVI. THE INITIAL AND FINAL BLOOD SUGAR LEVELS OF DIABETIC PATIENTS
- XVII. DIET GIVEN IN THE NATURE CURE HOME FOR HYPERTENSIVE PATIENTS
- XVIII. THE MEAN NUTRIENT INTAKE OF HYPERTENSIVE PATIENTS FROM HOME AND NATURE CURE HOME DIETS.
- XIX. THE MEAN INITIAL AND FINAL BLOOD PRESSURE LEVELS OF PATIENTS
- XX. DIET GIVEN IN THE NATURE CURE HOME FOR PEPTIC ULCER PATIENTS FROM HOME AND NATURE CURE HOME DIETS

- XXI THE MEAN NUTRIENT INTAKE OF PEPTIC ULCER PATIENTS
FROM HOME AND NATURE CURE HOME DIETS
- XXII DIET GIVEN IN THE NATURE CURE HOME FOR OBESITY
PATIENTS
- XXIII THE MEAN NUTRIENT INTAKE OF OBESITY PATIENTS FROM
HOME AND NATURE CURE HOME DIETS
- XXIV THE MEAN INITIAL AND FINAL WEIGHTS OF
OBESITY PATIENTS

LIST OF FIGURES

1. THE MEAN INITIAL AND FINAL BLOOD SUGAR LEVELS OF DIABETIC PATIENTS
2. THE MEAN INITIAL AND FINAL BLOOD PRESSURE LEVELS OF HYPERTENSIVE PATIENTS
3. THE MEAN INITIAL AND FINAL WEIGHTS OF OBESE PATIENTS

LIST OF APPENDICES

- I. INTERVIEW SCHEDULE TO ELICIT INFORMATION REGARDING THE DIETARY PATTERN OF THE PATIENTS
- II. NUTRIENTS PROVIDED BY THE PATIENTS' HOME DIET
- III. THE INITIAL AND FINAL BLOOD SUGAR LEVELS OF THE DIABETIC PATIENTS.
- IV. THE INITIAL AND FINAL BLOOD PRESSURE LEVELS OF THE HYPERTENSIVE PATIENTS
- V. THE INITIAL AND FINAL WEIGHTS OF OBESE PATIENTS.

Introduction

I INTRODUCTION

"Life is not to be alive but to be well" - Martial.

A proper diet, correct food combinations, scientific relaxation, constructive thinking and the right mental attitude along with prayer and meditation, all play their role in keeping a sound mind in a sound body.

(Bapuji, 1991)

The rapid industrialization and materialism has made tension a part of our modern living. This tension gives rise to a racing pulse, high blood pressure, stomach hypersecretion and a nervous system that goes hay-wire. The modern medical system has agreed that the mind or in-built tension can play a dominant role in all diseases, and a major, role in 60% of all diseases. Forty years ago people were dying of cholera, small pox and plague. But now more people are dying of heart attack, blood-pressure, cancer and diabetes. It is the reward we pay for the so called progress, industrialization and for getting more affluent. Twenty five per cent of all men and 17% of women in today's affluent society suffer from peptic ulcer.(Modi, 1989) According to Srivatsava (1988) 30 million people suffer from Diabetes mellitus in India.

The rapid social change has takes its toll among adults, leading to casesof chronic fatigue, irritability

insomnia, ulcers, diabetes and high blood pressure.

In India we have got different systems of medicine like Allopathy, Ayurveda, Unani, Sidha and Homeopathy, but they all use medicines in one or another form. The modern medical system treats the symptoms and suppresses the disease but does little to ascertain the real cause. Toxic drugs which may suppress or relieve some ailments usually have harmful side effects. Drugs also produce dietary deficiencies by destroying nutrients and preventing their absorption. The power to restore health, thus lies not in drug, but in nature, as the father of Medicine 'Hippocrates' said "Nature cures, not the Physician".

Modern medicine is virtually impotent in dealing with coronary heart diseases, stroke, hypertension, diabetes, cancer and obesity. These emerging killer diseases, principally found among the affluent, are not easily tamed by drugs and surgery. These modern killer diseases are culturally conditioned and largely self induced. We create them ourselves by the way we live, particularly by the way we eat, drink, smoke and exercise.

Ganesa Sarma(1979) defines, "Basic nature cure or Natural hygiene is a branch of science of life which deals

with the care of organism in a state of health or in a state of dis-ease or disease".

Naturøpathy is a system of medicine to diagnose, treat and prescribe for any human disease through the use of air, light, water, heat and all natural methods and modalities. These include mechana therapy, articular manipulation, exercise, yogic asanas, psycho therapy,, thermotherapy, heliotherapy, photo therapy and other stimulation of the sympathetic nervous system through the orifices and dietetics. It excludes the use of poisonous drugs, serums, major surgery, X-rays and radium for theraputic purposes.

The basic concepts of Naturopathy are a regulated daily routine, good dietary habits, regular yogic exercises, avoiding indiscriminate and excessive medication and avoiding habits and addictions like-alcohol, smoking, tobacco chewing, excess tea and coffee.

Nature is fighting against disease all the time. Nature gives all her influence to the building of health. If humanity will live normally, nature will do the rest. All nature asks us to do is to cease building disease. Nature is the healer in the universe.

4

Today most of the people have wrong ideas about Naturopathy and its effects. Some people believe that nature cure is not a full fledged system of medicine and it is not a scientific system. It should be explained to them, that the Nature Cure system of treatment is a scientific and a very effective system for preventing and curing a number of chronic disease for which medication of any type has no answer, and the doctors are well trained in all aspects of medicine.

Most of the patients who seek naturopathic treatment are likely to have exhausted all the other systems of medicine and by the time they seek nature cure treatment, they had been on multiple drugs for quite sometime.

Though the Health Statistics claim that the average age of an Indian has improved from 37 years to 57 years during the last 35 years, the quality of health has drastically deteriorated, as people suffer from high blood pressure, diabetes, heart attacks and back problems right from the age of 25 years.

Naturopathy can play an important role in improving the above situation and thus helping the slogan "Health for All by 2000 A.D", to come true.

Thus, inspirations from the propagation of Naturopathy in imparting the knowledge of self sufficiency

for healthy living has paved the path for the present study on the "Management Approach of Nature cure in Diabetes Mellitus, Hypertension, peptic ulcer and obesity" with the following objectives: To

- A Analyse the various methods in Nature cure including the duration
- B Study the allied therapies, along with Nature cure.
- C Study the patients' views on Nature cure treatment.
- D. Assess the effectiveness of Nature Cure treatment.

Review of Literature

II REVIEW OF LITERATURE

The literature pertaining to the present study on, Management Approach of Nature Cure in Diabetes Mellitus, hypertension, peptic ulcer and obesity" is presented below under the following heads.

- A. Nature cure in India and Abroad - History and present picture
 - B. Magnitude of the health care problems of Diabetes Mellitus, Hypertension, peptic ulcer and obesity.
 - C. Role of Nature Cure in the management of the four major diseases.
- A. NATURE CURE in India and Abroad - History and Present picture.

Jussawala (1983) writes that the origin of nature cure cannot be placed at any given date, but is the accumulation of knowledge pertaining to the Natural methods of living and healing throughout the centuries.

This healing science was developed along natural and infalliable laws which work towards human welfare and which will normally work satisfactorily unless, they have been interefered with the application of unnatural and artificial agents.

It was practised by the ancient Egyptians, the Greeks and the Romans. It was also one of the gifts of the ancient Indian civilization to the world. Hippocrates, the Father of Medicine advocated it over a century ago. Like many other world wide revolution and reformation, nature cure as a science has its inception in Germany.

During the 19th century, some of the doctors from European countries who were aversed with the toxic effects of drugs, worked out the treatment procedures of Hydrotherapy, chromotherapy. (Bapuji, 1991).

Jussuwala (1983) also writes that Indian Yogis and sages has discovered the benefits of nature cure. It was mainly practised by philosophers and holymen for the purification of the body, mind and soul to help in the long hours of mediation. This in turn, called for great will power and self control. The long fasts undertaken by the great leader Mahatma Gandhi for political or other reasons, showed him the benefits of nature cure. This set him thinking as to how to bring these benefits within the reach of the poor villagers. He opened a small nature cure center near Bombay called 'urulikanchan'. His aim was to make the treatments as inexpensive as possible by getting from Nature her various gifts of healing which in larger cities man had lost.

According to Ganesa Sarma(1979) Nature cure is being recognised by the State Government, but such action proceeds at snail speed. In all these years after Independence only Andhra Pradesh, Madhyapradesh, Tamil Nadu, Gujarat and Rajasthan have recognised this system.

In the order of healing sciences, Naturpathy stands first, but, unfortunately, it is practised last after, hopelessly trying out all the other medical sciences. It is beyond doubt that nature cure is sure cure for majority of the diseases and inexpensive though very effective (Jinddal,1990)

B. Magnitude of the Health care problems of Diabetes Mellitus, Hypertension, peptic ulcer and obesity.

1. Diabetes Mellitus

Diabetes occurs more frequently now than was in the past. It is seen that percentage prevalence rate of Diabetes Mellitus in India varies from 0.1 to 11.3% (Bhaskar Rao, 1982) According to Srivatsava (1988) 30 million suffer from diabetes in India. It afflicts all age groups, both sexes and all socio-economical group.

A fasting blood sugar level of above 140mg/100ml and a post prandial level of above 200mg/100ml (Robinson) will establish diabetes mellitus.

2. HYPERTENSION

A physician is in a good position to predict a person's health future by measuring his blood pressure, and he may also foretell the approximate life expectancy of the person. Hypertension, the silent killer has become one of the commonest diseases. According to a survey, 20% of the adult population has hypertension and about 40% of all deaths below the age of 65 are to the consequence of high blood pressure (Jindal 1990).

The association of blood pressure and Sodium intake is substantially larger than is generally appreciated and increased with age and initial blood pressure. Dietary salt reduction would have an enormous effect on mortality from stroke and ischemic heart disease (Law et al 1991)

Heredity is a factor of large importance. High blood pressure runs in families probably through a predisposition consisting of a peculiar vulnerability of the tissues to degenerative agencies in general or to certain specific causes (MC Collum, 1989).

Blood pressure increases with age. As the age increases, the impact on the cardio vascular risk also increases. Diet, excessive calories, sodium and saturated fat influence this risk. (Kannel, 1988)

chances of getting a stroke are high, between 40 to 48 years. If the diastolic pressure exceeds 104 the chances are 10 times more than if the diastolic pressure is less than 85mm of Hg.

3. Peptic ulcer

Numerous studies have been conducted to observe the relationship between diet and peptic ulcer. In India, greater differences exist in the incidence. A low incidence in the north of India and a high incidence in the South. It is believed that the greater use of spices (eg pepper) is responsible for high incidence. The influence of dietary fiber has also been noted. The incidence is high in the rice and sorghum eating areas. In areas where unrefined wheat, soy, some millets are diet staples, the incidence is low. The foods associated with low incidence areas contain a protective factor that is lipo soluble (Krause-1987-Torey et al 91).

4. Obesity

Diet is particularly prominent in the development of obesity. When a high fat diet is taken the excess energy is accumulated as fat and they become obese. Recent epidemiologic studies show that overweight women eat more total fat, and saturated fatty acids than do normal weight woman. (Wurtman, 1987).

C. Role of Nature Cure in the management of the four major diseases

1. Diabetes Mellitus

Experimental evidence suggests that the combination of diet and exercise can slow down or even stop the degenerative changes associated with diabetes. (Marano 1991)

The Oat fiber was well accepted and produced no serious side effects. The oat-fibre decreased fasting levels by 13% LDL cholesterol by 8.9% (Anderson et al 1991). Increasing dietary fiber intake enhances the satiety value of the food. (Anderson & Gustafson, 1989)

2. Hypertension

A decrease in dietary saturated fat alone or in combination with increased polyunsaturated fats induce a moderate reduction in blood pressure. While a number of dietary constituents effect the blood cholesterol level, Saturated Fatty acids and cholesterol are of primary importance (William & Wilkins, 1989)

It has been established that exercise has a hypotensive effect but it is not clear whether the decrease in blood pressure is due to reduced cardiac output or reduced systematic vascular resistance (Leon et al 1987)

Studies were conducted on the integrated approach of yoga, yoga nidra and meditation in treating hypertension. The results showed that there was a significant reduction in the systolic blood pressure of hypertensive patients. (Nagarathna, 1990)

Yoga nidra is a perfectly safe, sound and effective meditation technique for lowering blood pressure. Yoga nidra brought the blood pressure down by 10-20/0-10 mm kg; lower than resting blood pressure, (Sreenivas, 1990)

Meditation relieves all types of physical, physiological and psychological stress and gives a deep relaxation. During meditation the oxygen consumption decreases by 20% resulting in a decrease in metabolic rate, cardiac output decreases with a mean decrease of 25%. The heart rate shows a mean decrease of about 5 beats/minute. Respiration becomes slow and shallow and the blood pressure tends to decrease. The sympathetic nervous system is relaxed with lower levels of stress hormones adrenalin and noradrenalin (Bhargava, 1989).

3. Peptic ulcer

The counteract the acidity of the stomach, alkaline foods like vegetables, fruits and salads are provide. But they should not be sour or very rough. Juices of raw vegetables like cucumber cabbage or white pumpkin are given. Cabbage contains vitamin 'U' also known as anti-ulcer factor. (IVCQ-1984) The food should be taken in small quantities and frequently.

Mediation for at least half an hour is recommended in the treatment of peptic ulcer patients.

3.Obesity.

Naturopathic treatment for obesity are diet, exercises, yoga and hydrotherapy.

Fasting is a very good remedy for obesity. The whole system is overhauled and revitalized by this. Fasting is done for a period of one week or ten days. During fasting the pulse which is either subnormal or abnormal comes to normal. The blood pressure is reduced. The patient is given liquid diets like lime juice, tender coconut water and buttermilk. After breaking the fast the patient is kept on semi liquid diet. Later on easily digestible food like papaya, water melon are given. Then simple food is advised. The components of food would be 80% vegetables. (Sambasiva Rao 1980).

High fibre food is most important in weight reducing. with a high fibre diet you excrete more calories in the stool. Tests indicate that the caloric content of the faeces amount is nearly ten percent when people are on a high fibre diet (Modi 1989)

Studies show that fibre has an effect in losing weight. It was shown that fibre supplementation resulted in 0.2 to 0.4 kg/week greater weight loss in treated

14

subjects.(J.Stevens 1988). It has also been shown that the prevalence of obesity has remained low in countries where fibre intake is high.(Travell 1984).

The diet given in the nature crue center consists of fruits raw salads and arukampaul juice, which provided more fibre

Changes in plasma lipids and lipo protein levels were seen in men who exercised. There was a decrease in body weight and body fat. Although the plasma concentration of total cholesterol and LDL did not differ, the exercise had a greater increase in HDL and a greater decrease in their trglycerides(Wood et al 1988). The increased energy expenditure, a decreased energy intake, or a combination of the two results in metabolic changes that modify the risk factors associated with obesity (Hyde 1984).

Methodology

III METHODOLOGY

The methodology used in the present study on "Management Approach of Nature Cure in Diabetes Mellitus, Hypertension, Peptic ulcer and obesity" is presented below.

- A. Selection of the subjects
- B. Study of Nature Cure treatment in terms of
 - 1. Duration and
 - 2. Other treatments given
- C. Eliciting the patients' views on Nature Cure treatment.
- D. Assessing the effectiveness of Nature Cure treatment

A. Selection of Subjects

R.K.Nature Cure Home situated at Ganapathy Coimbatore was selected for conducting the study. This Home was selected as it is one of the biggest and well equipped nature cure centres in Coimbatore.

The subjects selected for the study were patients undergoing Nature Cure treatment for Diabetes Mellitus, Hypertension, Peptic ulcer and obesity and the subjects were selected on the basis of convenience to carry out the study.

A convenience sample is obtained by selecting convenient population units. It refers to that fraction of the population being investigated which is selected neither by probability nor by judgment but by convenience (Gupta 1990).

Majority of the present day health problems, Diabetes, Hypertension, Peptic ulcer and obesity are due to improper life style, an unregulated daily routine and faulty dietary habits. The widespread use of drugs and surgery in the orthodox medicine has lead to a great surge in the development of naturopathy as an alternative in the treatment of chronic diseases. (Trattler, 1985). Hence, for the present study the patients undergoing treatment for diabetes mellitus, hypertension, peptic ulcer and obesity were selected.

B. Study of Nature Cure treatment in terms of duration and other treatments given.

An Interview Schedule was used for the collection of data regarding the family history and the meal pattern of the patients before coming to nature cure treatment. (APPENDIX I) details regarding the diet, duration of treatment and the other treatments given in the Nature cure Home were also collected using the same schedule.

Interview schedule includes a "variety of procedures used in collecting data through a person to person contact between an interviewer and respondent"(Brown 1985). This method is selected because the response is more, the information obtained is likely to be more accurate, as the interviewer can clear up any doubts. The respondents are also more willing to supply information when approached personally.(Gupta 1990).

C. Eliciting the Patients' views on Nature Cure treatment.

The views of the patients were obtained regarding.

1. The source of knowing nature cure treatment
2. Improvement after nature cure treatment and their interest in continuing the treatment
3. Cost factor and the satisfaction of treatment.

D. Assessing the effectiveness of Nature Cure treatment.

The effectiveness of Nature Cure treatment was assessed by measuring the changes in blood sugar, blood pressure, relief of pain and the weights of the patients with the four major diseases after treatment in the Nature Cure Home.

Results and Discussion

IV RESULTS AND DISCUSSION

The results and discussion of the study on the 'Management Approach of Nature Cure in Diabetes Mellitus, Hypertension, Peptic ulcer and obesity' are presented under the following headings.

- A. Background information of the patients
- B. Meal pattern and nutritive value of patients' Home diet and diet provided in the Nature cure Home.
- C. Impact of Nature Cure treatment in terms of
 - 1. The initial and final blood picture and weights of the patients
 - 2. Other treatments given in the hospital
- D. Views of the patients regarding Nature Cure treatment

A. Background information of the patients

Fifteen patients each, undergoing Nature cure treatment for Diabetes Mellitus, Hypertension, peptic ulcer and obesity at R.K.Nature Cure Home Ganapathy, Coimbatore were selected for the study.

Of the fifteen patients undergoing treatment for diabetes mellitus, 9 of them were males and 6 were females, 12 of the hypertennsion patients were males and 3 were females;14 of the peptic ulcer patients were males and 1

was a female, of the obesity patients, 1 was male and 14 were females.

Details regarding the age of the patients is given in the Table.I

TABLE I
DETAILS OF THE AGE OF THE PATIENTS

Disease	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs
Diabetes	0	2	6	7
Hypertension	1	2	6	6
Peptic ulcer	5	5	5	0
Obesity	6	0	4	5

The above Table shows that 2 of the diabetes patients were in the age group of 35-44 years; 6 in the age group of 45-54 yrs; 7 in the age group of 55-64 years.

Of the hypertension patients one patient was in the age group of 25-34 years 2 were in the age group of 35-44 years, 6 in the age group 45-54 years and 6 in the age group of 55-64 years.

Five of the peptic ulcer patients were in the age group of 25-34 years and 5 each in the age group of 35-44 years and 45-54 years.

Of the obesity patients six were in the age group of 25-34 years, four in the age group of 45-54 years and five were in the age group of 55-64 years.

Information on the period for which the patients are suffering from the disease is presented in Table II.

TABLE II
PERIOD FOR WHICH THE PATIENTS HAVE THE DISEASES

Disease	0-5 years	6-10 years	11-15years
Diabetes	8	5	2
Hypertension	8	7	0
Peptic ulcer	9	6	0
Obesity	8	7	0

From the Table it is revealed that eight of the diabetic patients are suffering from the disease for 0-5 years, five of them suffering for 6-10 years and two of them suffering for 11-15 years.

Eight of the Hypertension patients are suffering for 0-5 years and six of them suffering for 6-10 years.

Of the peptic ulcer patients Nine are suffering for 0-5 years and six suffering for 6-10 years.

Of the obesity patients eight are suffering from obesity for 0-5 years and seven are suffering for 6-10 years.

Information obtained on the other treatments undergone by the patients showed that all the diabetic patients had undergone allopathic treatment, and one of the patients had undergone ayurvedic and siddha treatments also.

All the hypertension patients had followed allopathic treatment.

Of the peptic ulcer patients all had undergone allopathic treatment and 2 of them had followed ayurvedic treatments also.

Only 2 of the obesity patients had taken allopathic treatments.

The duration of the nature cure treatment given to the patients suffering from the diseases is presented in Table III

TABLE III
DURATION OF NATURE CURE TREATMENT GIVEN TO THE PATIENTS

Disease	Number of days			
	0-7	8-14	15-21	22-28
Diabetes	3	8	3	1
Hypertension	2	5	7	1
Peptic ulcer	7	7	1	0
Obesity	0	5	7	3

From the above Table it is evident that 3 of the diabetes patients underwent treatment for 0-7 days; 8 of them underwent treatment for 8-14 days; 3 of them 15-21 days and 1 patient underwent treatment for 22-28 days. Of the hypertension patients, 2 of them underwent treatment for 0-7 days; 5 of them for 8-14 days; 7 of them for 15-21 days and 1 of the them underwent treatment for 22-28 days, seven of the peptic ulcer patients underwent nature cure treatment for 0-7 days; 7 of them underwent treatment for 8-14 days and 1 of them for 15-21 days.

Five of the obesity patients underwent treatment for 8-14 days; seven of them for 15-21 days and 3 of them for 22-28 days.

Table IV gives information on the other family members of the patients, who had the diseases:

TABLE IV
FAMILY HISTORY OF THE DISEASES OF THE PATIENTS.

Disease	RELATION TO THE PATIENT		
	Father	Mother	Brother
Diabetes	4	3	0
Hypertension	5	1	1
Peptic ulcer	3	2	2
Obesity	4	4	1

Seven of the diabetic patients said that their family members had the disease. In four of the cases the father had the disease and in 3 cases, the mother had the disease.

Of the hypertension patients, seven of them had the disease in the family. Five of them said, their father had the disease and one each said their mother and brother had the disease.

Among the peptic ulcer patients, six of them showed family history of the disease. In 3 of them the father had the disease, in 2 of them mother had the disease and in 1, brother had the disease.

Eight of the obesity patients said, others had the disease in the family. Four of them said, their father had the disease and the other four said their mother had the disease.

Information on the diet restrictions followed by the patients showed that two of the diabetic patients, three of the hypertension patients, two of the peptic ulcer patients and 2 of the obesity patients followed restriction in their diets.

The foods restricted by the patients is shown in Table V.

TABLE V
FOODS RESTRICTED BY THE PATIENTS

Disease	Sweet	Fried Foods	Salts
Diabetes	1	1	0
Hypertension	0	1	2
Peptic ulcer	0	2	0
Obesity	0	2	0

The table shows that one each of the diabetic patients restricted sweet and fried foods.

Only one of the hypertension patients restricted fried foods and 2 of them restricted salt in their set.

Among the peptic ulcer patients two restricted fried foods and two of the obesity patients also restricted fried foods.

Details on the beverage consumption of the patients is shown in Table VI.

TABLE VI BEVERAGE CONSUMPTION

Disease	Coffee	Tea	No. of cups per day			
			1	2	3	4
Diabetes	12	3	2	7	4	2
Hypertension	13	2	3	3	5	4
Peptic ulcer	13	2	0	5	6	2
Obesity	12	3	0	6	8	1

The above Table shows that twelve of the diabetes patients consumed coffee and three of them consumed tea. Among them 2 consumed 1 cup; 3 consumed 2 cups; 4 consumed 3 cups and 2 consumed 4 cups per day.

Out of fifteen hypertension patients thirteen consumed coffee and 2 consumed tea. Three of them consumed 1 cup; two of them consumed 2 cups; five consumed 3 cups and four consumed 4 cups per day.

Of the peptic ulcer patients thirteen of them consumed coffee and two consumed tea. Among them 5 consumed 2 cups; 6 consumed 3 cups and 2 consumed 4 cups per day.

Twelve of the obesity patients consumed coffee and 3 of them consumed tea. 6 of them consumed 2 cups; 8 consumed 3 cups and 1 consumed 4 cups per day.

Details on the personal habits of the patients is given below.

TABLE VII
PERSONAL HABITS OF THE PATIENTS

Disease	Smoking No of cigarettes/ day				Alcohol		Panchewing		Spices		
	0.5	6-10	11-15	15& above	Yes	No	Yes	No	less	moder-	High
									ate		
Diabetes	3	1	2	0	2	13	2	13	4	11	0
Hyper-tension	1	3	0	2	1	14	0	15	0	9	6
Peptic ulcer	2	3	0	1	1	14	0	15	0	7	8
Obesity	-	-	-	-	0	15	0	15	0	8	7

Table VII shows that five of the diabetes patients had the habit of smoking, 3 of them smoked 0-5 cigarettes, 1 smoked 6-10 cigarettes, and 2 smoked 11-15 cigarettes per day.

Six of the hypertension patients had the habit of smoking, Among them 1 smoked 0-5 cigarettes, 3 smoked 6-10 cigarettes and 2 smoked more than 15 cigarettes per day.

As fourteen of the obesity patients were females, none of them had the habit of smoking, alcohol consumption or pan chewing. Eight of them included moderate spices and seven included high amount of spices in their diets.

Among the diabetic patients two had the habit of drinking alcohol and two had the habit of pan chewing. Four of them included less spices and eleven included moderate spices in their diet.

One among the hypertension patients had the habit of drinking alcohol and none of them had the habit of pan chewing. Nine of them included moderate spices and six included high amount of spice in their diet.

One of the peptic ulcer patients consumed alcohol. None of them had the habit of panchewing. Seven of the patients included moderate spices and eight included high amount of spices in their diets.

Information gathered on the meal pattern of the patients showed that, among the diabetes patients one was vegetarian and fourteen were non-vegetarians.

Four of the hypertension patients were vegetarians and eleven were non-vegetarian.

Six of the peptic ulcer and obesity patients were vegetarians and nine of them were non-vegetarian.

The type of fat and the amount of fat consumed by the patients is shown in the Table VIII

TABLE VIII
TYPE AND AMOUNT OF FAT CONSUMED BY THE PATIENTS

Disease	Type of fat				Amount of fat/day			
	Groundnut oil	Coconut oil	Gingelly oil	Refined oil	Others (saffola)	0-20g	21-40g	41-60g
Diabetes	1	0	5	9	0	5	7	3
Hypertension	2	0	4	8	1	6	7	2
Ulcer	4	2	3	6	0	8	6	1
Obesity	4	0	1	10	0	8	6	1

It is evident from the above Table, that one of the diabetes patients consumed groundnut oil, five of them consumed gingelly oil and the nine consumed refined oil. Nine of them consumed 0-20g of oil; 7 consumed 21-40g of oil and 3 of them consumed 41-60 oil per day.

Ten of the hypertension patients consumed groundnut oil, four of them consumed gingelly oil, eight consumed refined oil and one consumed saffola oil. Six of them consumed 0-20g of oil, 7 of them consumed 21-40g of oil and 2 of them consumed 41-60g oil per day.

Among the peptic ulcer patients, four consumed ground nut oil, two consumed coconut oil, three consumed gingelly oil and six consumed refined oil. Eight of them consumed 0-20g of oil, six consumed 21-40g and 1 consumed 41-60g oil per day.

Four of the obesity patients consumed groundnut oil one consumed gingelly oil and 10 of them consumed refined oil. 8 of them consumed 0-20g oil ; 6 of them consumed 21-40g and 1 consumed 41-60 g of oil per day.

The outside eating followed by the patients and the foods taken outside are shown in the Table.

TABLE IX
OUTSIDE EATING

Disease	Frequency			Foods consumed		
	Once a week	Once in fortnight	Once a month	Dosai	Poori	Bajji
Diabetes	0	2	2	2	1	1
Hypertension	0	3	1	1	3	-
Peptic Ulcer	2	2	3	2	1	4
Obesity	1	1	1	-	2	1

It is event from the above Table that 4 of the diabetes patients had the habit of eating outside. Among them 2 each ate once in a fortnight and once in a month. 2 of them consumed dosai, and 1 each consumed poori and Bajji.

Among the hypertension patients, four consumed food outside. Three of them ate once in a fortnight and 1 ate once in a month. 1 ate dosai and 3 ate pooris.

Seven of the peptic ulcer patients had the habit of eating outside 2 of them took food outside once a week, 2 of ate once in a fortnight and 3 of them ate once in a month. 2 of them ate dosai, 1 ate poori, 4 ate Bajji.

Three of the obesity patients ate outside 1 ate once in a week and 1 each ate once in fortnight and once a month. 2 of them ate pooris and 1 ate Bajji.

The irregular meal pattern of the patients and the reasons for skipping meals is presented in the Table.

TABLE X
IRREGULAR MEAL PATTERN OF PATIENTS

Disease	Meal skipped			Reasons	
	Breakfast	Lunch	Dinner	Lack of time	No reason
Diabetes	2	1	0	3	0
Hypertension	3	-	-	3	-
Peptic ulcer	1	1	1	6	3
Obesity	4	2	-	4	2

It is evident from the Table that three of the diabetic patients did not have regular meals. Two of them skipped breakfast and 1 skipped lunch. All 3 of them said, the reason as lack of time.

3 of the hypertension patients skipped their meals, and all of them skipped break fast due to lack of time.

Among the peptic ulcer patients 6 did not have regular meals. Seven of them skipped their breakfast and 1 each skipped lunch and dinner. 6 of them said the reason to be lack of time and 3 did not have any reason.

Six of the obesity patients did not have regular meals. 4 skipped their breakfast and 2 skipped lunch 4 of them said the reason to be lack of time and 2 did not have any reason.

Information obtained from the patients showed that 8 of the diabetic patients were under constant physical or mental stress.

Nine of the hypertension patients said they were under constant stress.

Eight of the peptic ulcer patients and one of the obesity patient also told that they were under stress.

TABLE XI
REGULAR PERFORMANCE OF EXERCISE

Disease	Yes	No	Type of Exercise	
			Walking	Yoga
Diabetes	6	9	5	1
Hypertension	3	12	3	0
Peptic ulcer	5	10	5	0
Obesity	4	11	3	1

The above Table shows that six of the diabetic patients performed exercise 5 of them walked and 1 did yoga.

Three of the hypertension patients performed exercise. All of them followed walking.

Five of the ulcer patients followed walking 4 of the obesity patients performed exercise 3 of them walked and 1 did yoga.

B. MEAL PATTERN AND NUTRITIVE VALUE OF PATIENT HOME DIETS AND DIET PROVIDED IN THE NATURE CURE HOME

TABLE XII
THE HOME DIET OF THE PATIENTS

Early morning	Breakfast	Lunch	Tea	Dinner
Coffee/ Tea	Idli/Dosai Chutney	Rice, Sambar Rasam, Poori- yal, curd, plan- tain	Coffee/ Tea	Dosai Chutney Chapathi Kurma

The mean nutritive value of the patients home diet is presented below.

The individual values are presented in Appendix(II)

TABLE XIII
THE MEAN NUTRITIVE VALUE OF PATIENTS HOME DIET

Disease	Energy k.cal	Protein g	Fat g	Carbohy- drate I	Iron mg	Fiber g	Sodium mg
Diabetes	2203	51	61.6	329	13.58	6.58	445
Hyperten- sion	2203	50.9	53.6	325.5	13.46	9.2	480.6
Peptic ulcer	1938	45	50.1	304.2	11.28	7.68	441.8
Obesity	2252	62.3	57.6	356.5	14.9	7.89	451.3

The diet provided for Diabetic patients in the nature cure centre is presented in Table XV

TABLE XIV
THE MEAN NUTRIENT INTAKE OF DIABETIC PATIENTS FROM HOME AND NATURE CURE CENTER DIETS(N-15)

	Energy K.cal	Protein g	Fat g	Carbohy- drate I	Iron mg	Fiber g	Sodium mg
Home diet	2203	51	61.1	309	13.58	6.58	445.2
Hospita- l diet	1506	55	25	268.8	48.2	16.5	214.6

A low calorie, low fat and high fiber diet is provided in the Nature Cure Home.

TABLE XV.

DIET GIVEN IN THE NATURE CURE HOME FOR DIABETES MELLITUS

7.00 A.M	8.00 A.M	12.30 P.M	2.00 P.M	4.00P.M	5.30 P.M?
Arukampul juice	Herbal tea (sugar free)	Boiled vegetables-300g Chapathi-2, Kali-100g, Buttermilk	Vendayam juice	Herbal tea (sugar free)	Boiled Vege- tables-300g, Chapathi-2, Dhalia-100g, Buttermilk Sprouted horse gram
Arukampul Juice	Herbal tea (Sugar free)	Boiled vegetables-300g chapathi-2, Aval upuma -100g, Buttermilk	Vendayam juice	Herbal tea	Boiled vegetables 300g, chapathi-2 Dhalia-100g, soup Buttermilk, sprouted greengram
Arukampul juice	Ragi kool	Boiled vegetables-300g chapathi-2, Idli-2 Buttermilk	Vendayam juice	Herbal tea	Boiledvegetables- 300g chapathi -2 Dhalio-100g, Buttermilk,sprouted bengalgram
Arukampul juice	Ragi kool	Boiled vegetables-300g chapathi-2 Tomato rice-100g Buttermilk	Vendayam juice	Herbal tea	Boiled vegetables 300g chapathi-2, Dhalia-100g sprouted horse gram soup

Studies conducted by Anderson et al (1987) show that a high carbohydrate, high fiber diets significantly lowered insulin requirements of diabetic patients. Diets providing 70% of energy as carbohydrate; 18% protein and 12% fat and 70 grams dietary fiber daily, lowered the post prandial glucose concentration and both total and LDL cholestrol in diabetic patients which is also seen in the diet provided in the Nature cure centre.

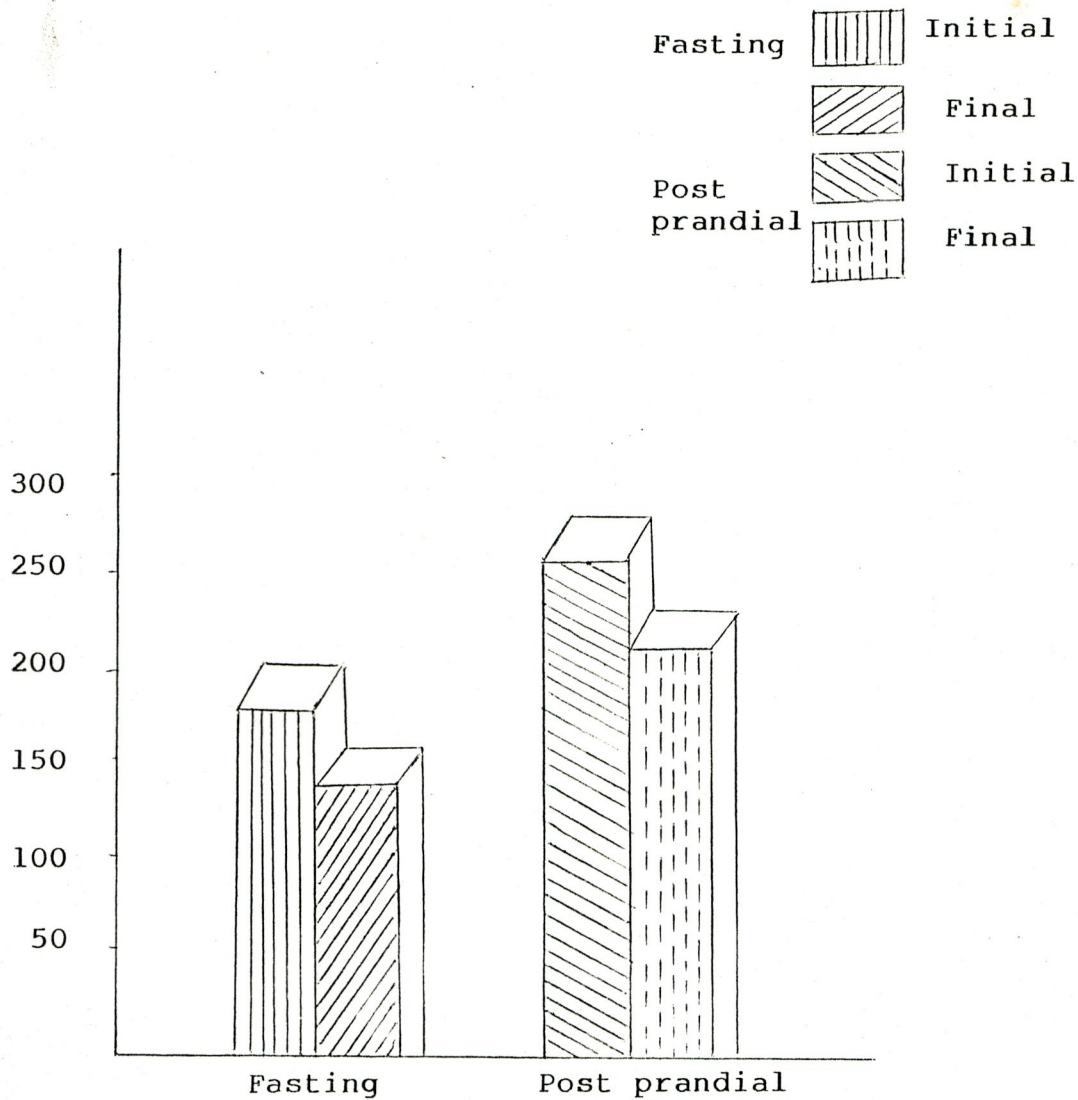
C. Impact of Nature cure treatment

The blood glucose levels of patients during the admission and after treatment in the Nature cure Centre shows that the dietary modification and other treatments in the hospital had positive effect as presented in Table XVI and (FIGURE I)

**TABLE XVI
THE INITIAL AND FINAL BLOODSUGAR
LEVELS OF DIABETIC PATIENTS**

	Blood glucose mg%	
	Fasting	Post prandial
Initial	180	252
Final	142.8	200.7
% decrease	20.6	20.3

FIGURE 1



THE MEAN INITIAL AND FINAL BLOOD SUGAR LEVELS OF DIABETIC PATIENTS

The other treatments given to the patients were

1. Yoga therapy: The yogas followed were
2. Pavana Mukthasana
2. Sarvangasana
3. Halasana
4. Padmasana
5. Yoga Mudra
6. Pranayana and
7. Yoga Nidra

ii) Physical therapy: The physical therapies administered were

1. Hydrotherapy - Spinal bath; Hot and cold compresses
2. Physiotherapy - abdominal massage

TABLE XVII

DIET GIVEN IN THE NATURE HOME FOR HYPERTENSIVE PATIENTS

7.00 A.M	8.00 A.M.	12.30 P.M.	2.00 P.M.	4.00 P.M	5.30.P.M.
Arukampul Herbal tea juice		Boiled vegetables-300g chapathi-3, soup	Tender coconut water	Barley water	Fruits, soup
Arukampul Herbal tea juice		Boiled vegetables-300g chapathi-2, Tomato rice- 100g, soup	Tender coconut water	Barley water	Raw salad, soup
Arukampul Herbal tea juice		Boiled vegetables-300g chapathi-2 Idli-2, soup	Tender coconut water	Barley water	Fruits, soup
Arukampul Herbal tea juice		Boiled vegetables-300g chapathi-1 vegetable rice-100g soup	Tender coconut water	Barley water	Rawsalad soup

TABLE XVIII
THE MEAN NUTRIENT INTAKE OF HYPERTENSION PATIENTS FROM
HOME DIET AND NATURE CURE HOME DIET

Diets	Energy K-cal	Protein g	Fat g	Carbo- hydrate g	Iron mg	Fiber g	Sodium mg
Home	2200	50.9	53.6	325.5	13.46	9.2	480.6
Hospital	1286	51.7	22.5	227.1	49.2	20.27	109.27

The Nature Cure Home diet as presented in Table XVII and Table XVIII

provides a low calorie, low fat and low sodium when compared to their home diets.

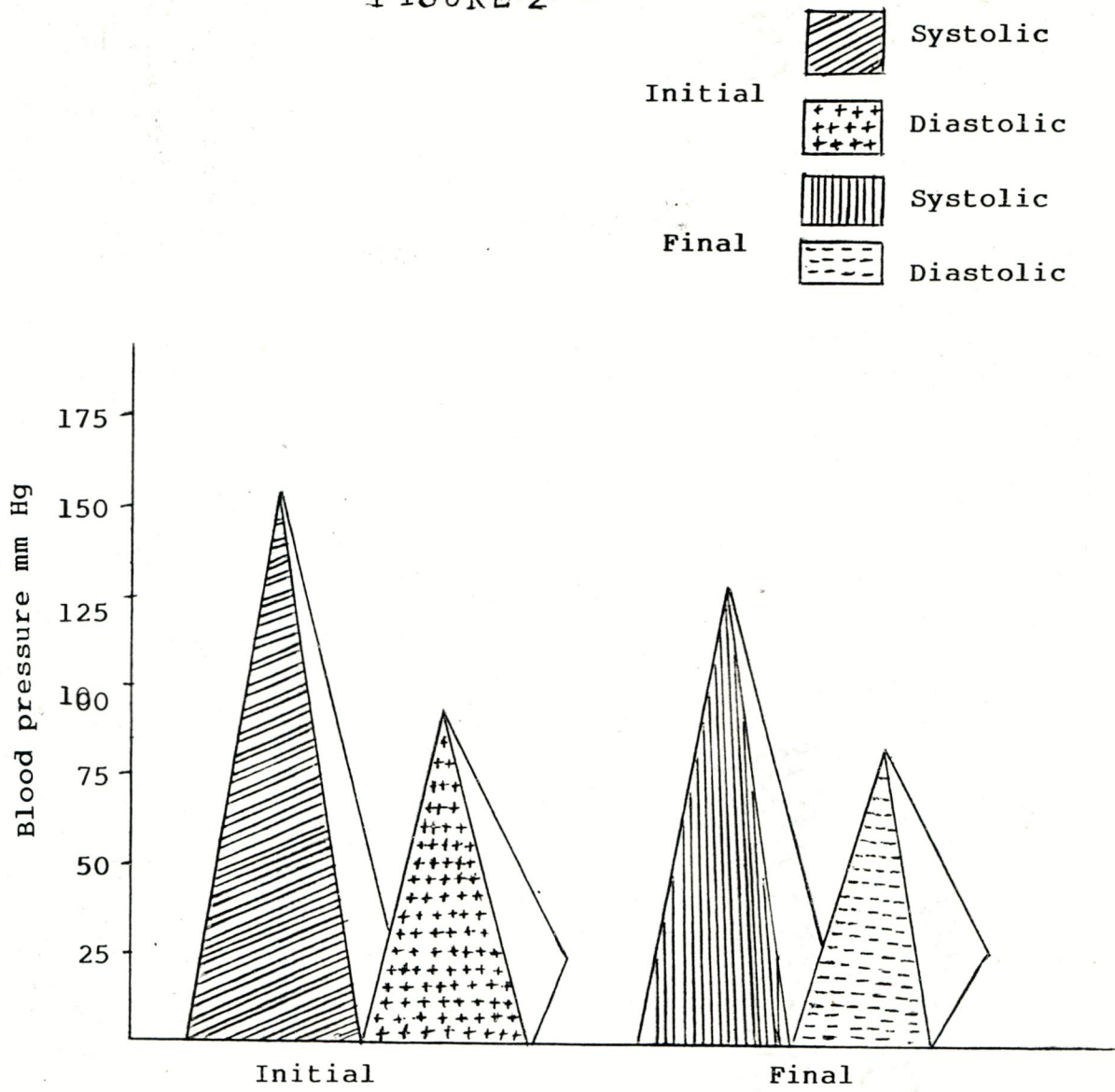
Williams and Wilkins (1989) Stress that decrease in dietary saturated fat alone or in combination with increased polyunsaturated Fats induce a moderate reduction in blood pressure.

According to Law and Frost (1991) Sodium restriction appears to be an effective and safe way to lower blood pressure.

TABLE XIX THE INITIAL AND FINAL BLOOD PRESSURE-LEVELS OF PATIENTS

Blood pressure MM Hg.	
Initial	150/90
Final	129/86
Normal	120/80
% decrease	14/5

FIGURE 2



THE MEAN INITIAL AND FINAL BLOOD PRESSURE
LEVELS OF HYPERTENSIVE PATIENTS

40

The Values presented in the Table XIX indicates that the diet provided in the hospital and other treatments and rest given to the patients reduced blood pressure. (FIGURE II)

The other treatments given to hypertension patients were

Yogasanas

- i. Padmasana
- ii. Bhujangasana
- iii. Yoga Mudra
- iv. Pranayama
- v. Yoga Midra and
- vi. Meditation

Physical therapies

Physio therapy- Massage, Kidney pack

Hydrotherapy - Neutral jet bath

TABLE XX
NATURE CURE HOME DIET FOR PEPTIC ULCER PATIENTS

7.00 A.M	8.00 A.M	12.30 P.M	2.00 P.M	4.00 P.M	5.30 P.M.
Arukampul juice	Soup	Boiled vegetables-300g chapathi-2 Soup	Tender coconut water	Tender coconut water	Raw salad, curd rice, Buttermilk
Arukampul juice	Fruits	Boiled vegetables-300g chapathi-2, soup Buttermilk	Tender coconut water	Tender coconut water	curd, rice fruits, milk
Arukampul juice	Herbal tea	Boiled vegetables-300g chapathi-2, tomato rice, Buttermilk	Tender coconut water	Herbal tea	Raw salad, soup, butter- milk
Arukampul juice	Tender coconut water	Boiled vegetables-300g Ragi kali- Buttermilk, chapathi-2	Tender coconut water	Tender coconut water	Boiled Vegetables- 200g Dhalia- 100g Buttermilk chapathi-2

TABLE XXI
THE MEAN NUTRIENT INTAKE OF PEPTIC ULCER PATIENTS FROM
HOME DIET AND NATURE CURE HOME DIETS
(N-15)

Diet	Energy k.cal	Protein g	Fat g	Carbo- hydrate	Iron mg	Fiber g	Sodium mg
Home	1938	45	50.1	304.2	11.28	7.68	441.8
Hospital	1671	50.2	26.8	224.7	48.5	14.41	227.5

The diet as presented in Table XX provided in the Nature Cure Home is a soft and soothing diet. Spicy and sour foods are avoided.

To counteract the acidity of the stomach, alkaline foods like vegetables and fruits are given. Juices of raw vegetables like cucumber, cabbage and white pumpkin helps in healing the ulcer faster (IVCQ 1984)

As no clinical tests were done to determine the healing of ulcers, only the relief from pain and the general well being of the patients were determined.

The other treatments given to peptic ulcer patients were:

Yogas

- i. Surya Namaskar
- ii. Pavana Mukthasana
- iii. Padmasana
- iv. Yoga mudra
- v. Paschi mothasama
- vi. Pranayama

vii. Yoga nidra and

viii. Meditation

The physical therapies administered were

1. Hydrotherapy

Abdominal compress; Hot and cold hepatic compress,
cold hip baths.

2. Physiotherapy

Message to abdomen, Fomentation, Mud pack.

TABLE XXII

NATURE CURE HOME DIET FOR OBESITY

7.00 A.M	8.00 A.M	12.30 P.M.	2.00 P.M.	4.00 P.M	5.30 P.M.
Arukampul juice	Barley water	Raw salad, fruits tender coconut water	Lemon juice	Herbal tea	Soup, raw salad, fruits
Arukampul juice	Barley water	Raw salad, soup fruits	Plantain stem juice	Barley water	Raw salad, soup, lemon juice
Arukampul juice	Herbal tea fruits	Rice, mint, chutney raw salad	plantain stem juice	Tender coconut water	Fruits, Boiled vegetables
Arukampul juice	Raw salad	Rice, horse gram rasam, raw salad	plantain stem juice	Lime juice	Fruits, soup tender coconut water

TABLE XXIII

THE MEAN NUTRIENT INTAKE OF OBESITY PATIENTS FROM
HOME AND NATURE CURE HOME DIETS (N-15)

Diet	Energy k-cal	protein g	Fat g	Carbo- hydrate g	Iron mg	Fiber g	Sodium mg
Home	2252	62.3	57.6	356.5	14.9	7.89	451.3
Hospital	789	26.9	10.23	154.9	43.4	21.0	83.5

The hospital provided a low calorie, high fiber diet.

Stevens(1988) reported that fibre supplementation resulted in 0.2 to 0.4kg/ week weight loss. According to Rock (1988) very low caloric diets that provide 400 to 800 k cal daily has been accepted in the treatment of moderate to severe obesity.

TABLE XXIV
THE MEAN INITIAL AND FINAL WEIGHTS OF THE OBESITY PATIENTS

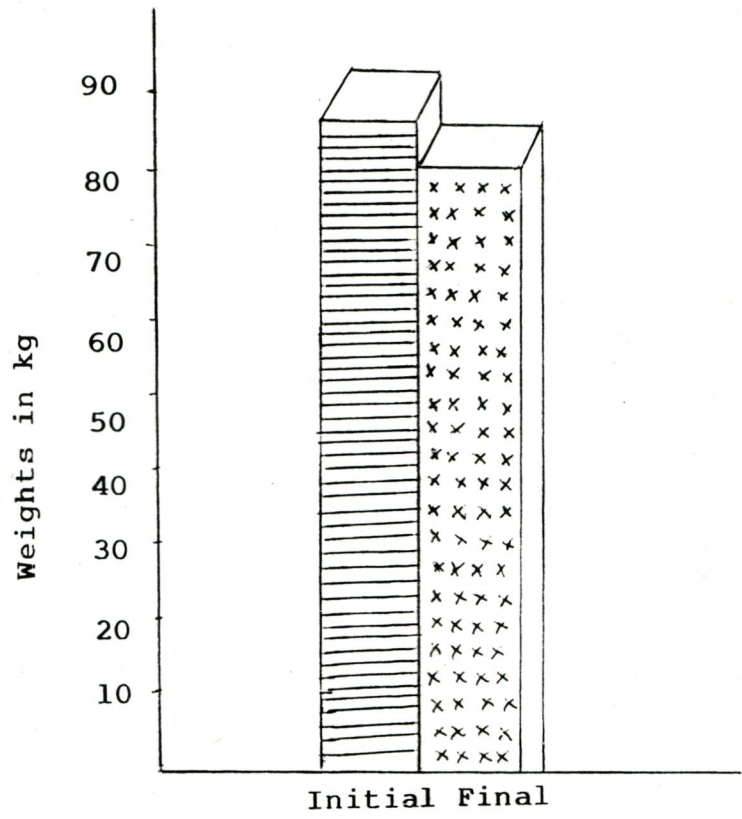
	Weights in kg
Initial	86.6
Final	80.8
% decrease	6.6

The effect of Nature Cure in treating obesity is revealed by the 6.6% reduction in weight of obese patients.(FIGURE III)

Provision of a low calorie, low fat and a high fiber diet along with the yogas and therapies, has lead to weight loss in the patients.

FIGURE 3

Initial
Final



THE MEAN INITIAL AND FINAL WEIGHTS OF OBESE PATIENTS

47

The other treatments given to obesity patients were

Yogasanas

1. Surya Namaskar
2. Pavana Mukthasana
3. Halasana
4. Sarvangasana
5. Paschimothanasana
6. Shalabasana

Physical therapies.

1. Hydrotherapy-cold hip bath, steam bath; sauna bath
2. Physiotherapy, body massage, vibro massage and mud bath

D. View of the patients regarding Nature Cure treatment

The views of the patients regarding Nature Cure treatments revealed that Eleven of the diabetic patients know about Nature cure treatment from relatives and four knew through friends. All the fifteen patients expressed their satisfaction of the treatment and were willing to follow the treatment. They considered the treatment to be inexpensive and affordable.

48

Among the hypertensive patients, thirteen of them came to know about Nature Cure treatments from relatives and two from friends. Thirteen of the patients showed improvement from the treatment and were interested in continuing the treatment. Twelve of them considered the treatment to be inexpensive.

Three of the peptic ulcer patients, knew about Nature Cure treatment from friends and twelve from relatives. All of them showed improvement from the treatment and considered the treatment affordable.

Fourteen of the obesity patients said, they knew about Nature Cure treatment relatives and one from friends. All of them expressed their satisfaction and were interested in following the treatment. Thirteen of the patients found the treatment to be affordable and two found it to be of moderate expenditure.

Summary and Conclusion

V SUMMARY AND CONCLUSION

Nature cure system is not as popular among the public as Allopathy, Homeopathy or Sidha. Now people are becoming more and more conscious of drug abuse in modern medicine, hence a system which cures without any side effects is essential. In this context, the study was conducted to create awareness about Nature Cure System among the public.

Fifteen patients each, undergoing Nature Cure treatment at R.K.Nature Cure Home, for Diabetes Mellitus, Hypertension, Peptic ulcer and obesity were selected for the study.

Background informations of the patients were collected by using an interview schedule. Nine of the diabetic patients were males, and 6 were females; 12 of the hypertensive patients were males and 3 were females; 14 of the peptic ulcer patients were males and 1 was female and 1 obesity patient was a male and 14 were females.

Majority of the diabetic patients were in the age group of 55-64 years. Majority of the hypertensive patients were in the age groups of 45-54 and 55-64 years; Among the peptic ulcer patients

in the age groups of 25-34, 35-44 and 45-54 years, the numbers were equal; Majority of the obesity patients were in the age group of 25-34 years.

It was found that, in all the four diseases, majority of the patients were suffering from the disease for 0-5 years.

Majority of the diabetes and peptic ulcer patients were given Nature Cure treatment for 8-14 days and majority of the hypertension and obesity patients were treated for 15-21 days.

Details obtained on the family history of the diseases among the patients showed that in 4 of the diabetic patients the father had the disease and in 3 the mother had the disease . In 5 of the hypertensive patients, father had the disease, in 3 of the peptic ulcer patients father had the disease and in 2 of them, mother had the disease. In 4 each of the obesity patients father and mother had the disease .

All the patients consumed coffee or tea everyday. Maximum number of diabetic patients consumed 2 cups per day; hypertensive patients consumed 3 cups per day maximum number of peptic ulcer and obesity patients also consumed 3 cups per day.

Seven of the diabetic patients had the habit of smoking and 2 each had the habit of consuming alcohol and panchewing. Majority of them included moderate amount of spices in their diet. Among the hypertensive patients 6 smoked cigarettes and 1 consumed alcohol. Majority of them included moderate amount of spices. Among the peptic ulcer patients 6 smoked and 1 consumed alcohol. Majority of them consumed highly spiced foods. None of the obesity patients smoked or consumed alcohol and majority of them included moderate amount of spices in their diet.

Fourteen of the diabetic patients were non-vegetarians and one was vegetarian. Eleven of the hypertensive patients were non-vegetarians and 4 were vegetarians. Nine of the peptic ulcer and obesity patients were non-vegetarians and 6 were vegetarians.

Majority of the patients suffering from the four diseases consumed refined oil. Majority of the diabetes and hypertension patients consumed 21-40g fat per day and the peptic ulcer and obesity patients consumed 0-20g fat per day.

Three of the diabetic and hypertensive patients skipped their meals; 7 peptic ulcer patients and 4 obesity patients also skipped their meals.

Majority of all the patients, did not perform any regular exercise, and those performed exercises did walking.

The hospital provided a low calorie, low fat and a high fiber diet to the patients. They were also given yoga and physical treatments.

In the diabetic patients, the Nature Cure treatment reduced the Fasting blood glucose levels by 20.6 per cent and the post prandial blood glucose levels by 20.3 per cent.

The blood pressure levels of hypertensive patients was reduced by 14 per cent.

The peptic ulcer patients ~~were~~ relieved from pain and discomfort

As a result of Nature cure treatment there was a 6.6 per cent reduction in weights of obese patients.

We can conclude from the study, that Nature cure is effective in the Management of Diabetes Mellitus, Hypertension, peptic ulcer and obesity.

To increase the life span, and make life more productive natural resources and Nature cure should be used by large number of people. To know the effects of nature cure, longitudinal studies should be undertaken in the near future.

Bibliography

BIBLIOGRAPHY

- Antia F.P
1989
Clinical Dietetics and Nutrition
III Edition, Oxford University
Press pp 450-480.
- Anderson J.W.,
Hamilton C.C
Spencer D.M
1991
Metabolic effect of insoluble
Oat fiber in NIDDM. Journal of
American Dietetic Association.
Dec., Vol.91; pp 291-94
- Anderson J.W.,
Gustafson
1989
Adherence to high-fiber diet.
Journal of American Dietetic
Association.
Dec., Vol.98 pp-429-31
- Aronson V
1990
The Dietetic Technician II
Edition, Van Nostrand Reinhold,
New York pp.219, 292-95, 311-
15
- Bakhru H.K
1986
Health the Natural way, II
Edition India Book House
pvt.Ltd pp 3-230
- Bapuji B
1989
Popular misconceptions about
Naturopathy; Gandhi Nature Cure
Hospital. Hyderabad pp: 15-20
- Bhargava B
1989
Mediation in Medicine
Health Action
Aug; vol.2; pp.33-35
- Braaten J.T
Wood P.J
1991
Oat gum lowers glucose and
insulin. The American Journal
of clinical Nutrition June;
vol.53;pp:1425-1430.

Ganesa Sarma 1979	The Life Natural Pudukkottai Press Jan; P-29
Gopalan C, Rama sastrri, Balasubramaniam 1989	Nutritive value of Indian Foods; NIN Hyderabad pp:47-79
Gupta S.P 1990	Statistical Method 25th Edition Sultan chand and sons pp:120-125
Hyde 1984	Exercise break through Journal of American Dietetic Association Aug; vol.84; p:41
Jarriven DeFronz 1984	Normalization of insulin sensitivity in type I diabetic subjects, Diabetes care vol.7; pp:520-527
Jindal S.R. 1990	Be Healthy with Naturopathy. II Edition. INYS Bangalore PP:15-78
Jones S.S 1991	The chemistry of Exercise. Health Science, May; Vol.14; P-14
Kannel W.B. 1988	Nutrition and cardiovascular disease in the elderly. Nutrition Reviews Feb., Vol.46; p-68
Krauss R.M. Lindgren F.T. 1987	Diet and peptic ulcer. Journal of American Dietetic Association; Dec; vol-87 p.80
Lakshmana S. 1990	The Life Natural Aug; pp: 17-30 Pudukkottai Press, Vol.27

Law M.R.	By how much dietary salt reduction
Frost C.D.	lower B.P; British Medical
Wald J.N	Journal, April, vol.302, PP 811-
1991	15
Leon A.S	Physical activity levels and risk
1987	of coronary heart disease. Journal
	of American Medical Association,
	Vol.258, pp:2388-2429.
Lindlahr H	The Practice of Nature Cure
1985	pp 147-65, Penguin INC, NEW YORK
Mc Collum	Blood pressure determinants,
1989	Journal of American Dietetic
	Association, Nov.Vol.68; P.23
Marano J	Conservative Management of
1991	Diabetes; Health Science Aug;
	vol.14;P-25
Modi KM	Health Forming Health Form
1989	Publications, Bombay pp:201-220;
	226-230
Nagendra H.R	Yoga therapy and Diabetes Mellitus
1989	New Horizons in Modern Medicine
	P-31 Vol. 15
Nagendra 1989	Nature Cure treatments. V Edition
	INYS - Bangalore pp 5-65
Rock C.L	Weight control approaches. Journal
Coulston A.M	of American Dietetic Association;
1988	vol.88; pp.44-48

Rao B 1982	Nature cure Prakriti, June; Vol.73, pp: 42-44
Rao S 1980	Nature cure in obesity. New Horizons in Modern Medicine pp: 15-21, vol. 12
Robinson H Lawler R 1986	Normal and Therapeutic Nutrition. 17th Edition. Macmillan Publishing Co. New York P -599
Stevens J 1988	Does dietary fiber affect body weight? Journal of American Dietetic Association; Aug; vol.88; P-939
Sreenivas R 1989	Yoga Nidra and Hypertension New Horizons in Modern Medicine P-43, vol. 16
Srivatsava M.C 1988	Diabetes Orient Paper backs pp: 10-27 Bombay
Travell 1984	Energy intake and determinants of body weight. American Journal of Clinical Nutrition; March; vol.47 p.406
Trattler R 1985	Better Health through Natural Healing. Thorsons Publishing group pp:285-310
Torey F.J Jayaraj A.P 1991	Duodenal ulcer and carbohydrate Journal of American Dietetic Association; Oct; vol-91 P-33
Williams, Wilkins 1989	Role of fat, fibre in lowering Blood Cholesterol. Nutrition Today Dec., vol.24; P-30.

Wood P.P, Changes in plasma lipids and Lipo
Dreon D.M proteins in overweight men during weight
1988 loss, New England Journal of Medicine
 Vol.319; pp 1173-1179

Wurtman R.J Human obesity, New England Journal of
Wurtman J.J Medicine, vol 320; pp1037-1043
1987

Yogabhyas Institute of Naturopathic and Yogic
1989 Sciences Bangalore 4th Edition; pp 5-
 102

Sundaram C Indian Vegetarian congress Quarterly
1984 October, pp: 11-15 ; vol. 30

Appendix

APPENDIX I

AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER
EDUCATION FOR WOMEN(DEEMED UNIVERSITY)
COIMBATORE-641 043

INTERVIEW SCHEDULE TO ELICIT INFORMATION REGARDING THE
DIETARY PATTERN OF THE PATIENTS

1. Name of the patient:
2. Age
3. Sex
4. Occupation
5. Type of illness
6. Duration of illness
- 7 Other treatments undergone

8. For how long are you undergoing nature cure treatment?

9. Does any one else in the family have the disease?

10. a. Do you follow any diet restrictions? Yes/No
b. If yes, what type of restrictions?

11. Are you a vegetarian/Non-vegetarian

12. The meal pattern of the patient before coming to
nature cure

Day	Early morning	Breakfast	Lunch	Tea	Dinner
-----	---------------	-----------	-------	-----	--------

I Day

II Day

III Day

13. How many cups of coffee/tea do you drink in a day?

Coffee/tea	Frequency	Amount
------------	-----------	--------

14. a. Do you smoke? Yes/No

b. If yes, how many cigarretes a day?

16. Do you have the habit of pan chewing?

17. Do you include a lot of condiments and spices in your diet?

18.a. Do you have regular meals?

b. If you skip meals, which meal do you skip and why?

19. Mention the type of fat and the amount of fat consumed?

20. Do you take a lot of fried foods? Mention

Type of food Frequency Amount

21. Do you take food outside the home? Yes/No

If yes, mention

Type of food Frequency Amount

22. Are you under constant physical or mental stress?

23. Do you exercise regularly?

24.a. Do you avoid any particular food? Yes/No

b. If yes what food and please mention the reason?

DIET GIVEN IN THE HOSPITAL

Name of the patient:

Type of illness:

Duration of treatment:

Days	7.00 AM	8.00 AM	12.30 PM	2.00 PM	4.00 P.M	5.30PM
1.						
2.						
3.						
4.						
5.						
6.						
7.						

Treatment given:

25. Do you find any improvement?

26. Are you interested in following this treatment after you go home.

27. Do you consider Nature cure treatment to be affordable/costly

28. Vital Data Initial Final

Blood pressure

mm Hg

Blood glucose

mg%

Weight in kg.

APPENDIX-II

**NUTRIENTS PROVIDED BY THE PATIENTS' HOME DIET
(DIABETIC PATIENTS)**

Patients Number	Energy Kcal	Protein g	Fat g	Carbo- hydrate g	Iron mg	Fiber g	Sodium mg
1	2380	53.5	77.4	118.5	1.5	0.3	-
2	2589	70.9	6.5	398.3	16.8	9.4	422.4
3	2415	51.9	78	326.8	9.82	10.29	470.1
4	2365	51.7	66.7	339.8	12.62	7.0	541.0
5	2477	75.4	68.1	368.9	16.4	6.87	535.5
6	2130	39.5	72.95	293.7	7.07	2.58	421.15
7	1548	40.3	39.4	260.1	10.7	7.02	198.4
8	2522	64.2	79.4	365.3	13.14	4.96	487.8
9	1756	44.5	48.12	239.3	11.03	7.52	568.9
10	2354	61.6	40.75	400.27	10.03	10.11	518.6
11	2148	55.3	48.25	363.9	44.4	7.34	289.25
12	2324	56.4	63.67	327.4	8.91	6.76	427.44
13	2056	45.8	39.5	332.4	10.5	11.87	498.8
14	1876	48.7	64.07	278.32	15.26	9.65	328.6
15	2110	46.3	52.7	301.3	8.35	10.19	456.3
HYPERTENSIVE PATIENTS							
16	2185	45.9	74.45	308.6	14.91	21	451.4
17	2292	52.3	64.6	324	13.02	8.7	477.3
18	2248	53.2	107	267.6	14.25	7.42	223.57
19	2040	48.9	52.05	308.2	8.48	3.04	503.37

	Energy Kcal	Protein g	Fat g	Carbo- hydrate g	Iron mg	Fiber g	Sodium mg
20.	2562	54.8	80.02	345.1	10.88	5.01	591.2
21.	2201	50.8	39.7	362.9	12	12.14	489
22	2526	62.1	59.7	402.1	12.09	44	538.16
23	1857	40	41.7	285.1	8.34	6.7	398.7
24	2010	47.4	52.4	296.5	14.8	7.32	453.8
25	2183	53.2	66.1	323.2	14.13	11.2	453.1
26	2509	63.9	55	378.7	14.6	4.66	455.65
27	2168	46.7	64.85	330.4	14.49	24	269.6
28	2163	49.9	52.05	322.98	11.26	5.01	414
29	2091	51.5	55.9	325.3	26.91	12	382.07
30	1829	43.8	43.8	302.4	11.8	17.5	360.2
PEPTIC ULCER PATIENTS							
31	2034	48.3	67.9	251.1	13.4	7.1	470
32	2054	42.9	48.4	311.2	9.07	10.6	241.8
33	1850	51.3	45.8	285.6	24.79	9.02	454.9
34	2358	43.7	73.1	386.4	11.97	9.32	635.3
35	2135	50.1	50.7	345.3	8.49	2.94	442.97
36	1745	41.8	64.16	370.8	16.73	4.93	483.47
37	1548	42.2	44.7	224.6	11.96	7.42	490.32
38	1924	45.5	38.8	333.1	7.25	3.1	444.1
39	1770	43.4	43.1	255	8.38	4.0	402.6
40	1920	47.3	53.4	306.7	7.97	3.34	394.8

	Energy kcal	Protein g	Fat g	Carbo- hydrate	Iron mg	Fiber g	Sodium mg
41	1807	34	37.9	257.5	7.52	11.15	416.8
42	1949	43	50	311.3	11.03	9.9	368.5
43	1836	45.7	44.4	275.9	12.3	10.8	441.4
44	2141	50.3	46.1	320.1	9.19	10.2	451.8
45	1953	45.2	40.6	328.7	9.25	11.47	488.4
OBESITY PATIENTS							
46	2507	70	57.8	413.8	16.36	9.76	447.9
47	2253	64.6	48	376.6	17.01	17.17	440.6
48	2299	60.2	65.9	345.4	16	10.3	484.6
49	1916	57.1	58.9	267	12.15	4.04	400.3
50	2287	59.6	57.72	379.7	13.4	8.19	483.5
51	2190	55.2	50.6	328.7	9.25	11.47	488.4
52	2141	52.3	46.1	320.1	10.1	10.02	452.8
53	2035	50.1	50.8	354.3	8.49	3.94	442.9
54	2350	45.7	73.1	380.4	12.97	9.32	535.3
55	2154	42.8	48.4	311.2	10.07	12.6	241.8
56	2307	71	57.8	423.3	16.36	9.76	437.9
57	2250	62.7	48	376.3	17.1	7.17	450.6
58	2199	60.2	68.9	342.4	18	13.3	384.6
59	1982	59.1	58.9	276	15.12	5.04	401.3
60	2387	59.6	57.3	329.7	13.4	9.2	428.5

APPENDIX III

THE INITIAL AND FINAL BLOOD SUGAR LEVELS OF THE DIABETIC PATIENTS

Blood Sugar mg %

	Initial		Final	
	Fasting	Post prandial	Fasting	Post Prandial
1.	278	360	230	310
2	181	215	103	165
3	235	329	217	315
4	210	320	185	250
5	139	230	115	205
6	105	165	85	105
7	260	378	225	310
8	235	315	211	241
9	120	200	101	130
10	118	170	95	155
11	218	278	170	250
12	110	178	95	150
13	121	230	103	211
14	270	320	122	154
15	100	160	85	110

APPENDIX IV
THE INITIAL AND FINAL BLOOD PRESSURE VALUES
OF HYPERTENSIVE PATIENTS

		BLOOD PRESSURE mm Hg	
Initial			Final
1	160/90		130/90
2	170/110		130/90
3	150/90		120/80
4	150/90		140/90
5	140/90		120/80
6	130/90		120/90
7	180/100		160/80
8	150/90		130/90
9	150/100		130/90
10	170/110		150/90
11	150/110		130/90
12	120/90		120/80
13	130/100		120/80
14	150/100		130/90
15	160/90		120/80

APPENDIX V

THE INITIAL AND FINAL WEIGHTS OF OBESE PATIENTS

Weights in kg

	Initial	Final
1	124.3	115
2	103	97
3	78	69
4	89	83.5
5	75.5	69.5
6	70.5	67
7	96.8	94
8	89	82
9	74	71.5
10	101.5	96.5
11	103	95
12	99.8	90
13	65	61.5
14	61.6	58
15	68	63.7
