

Contents

CONTENTS

Chapter No.	Chapters	Page No.
	LIST OF TABLES	
	LIST OF FIGURES	
	LIST OF PLATES	
	LIST OF APPENDICES	
I	INTRODUCTION	1
II	REVIEW OF LITERATURE	8
	A Diabetes Mellitus – The growing epidemic	8
	B Etiology of Diabetes Mellitus – The emerging facts	11
	C Complications of Diabetes Mellitus – A major threat	17
	D Low glyceimic index foods – A science based diet	23
	E Therapeutic lifestyle Counselling	29
III	METHODOLOGY	32
	I Assessment of prevalence of diabetes mellitus among employees of Tamil Nadu State Transport Corporation, Coimbatore division	32
	II Development of low glyceimic recipes incorporating sprouted legume powders and evaluation of glyceimic index	41
	III Promotion of low glyceimic recipes through diet and therapeutic life style counselling.	51
IV	RESULTS AND DISCUSSION	61
	I Assessment of prevalence of diabetes mellitus among employees of Tamil Nadu State Transport Corporation, Coimbatore Division	62
	II Development of low glyceimic recipes incorporating sprouted legume powders and evaluation of glyceimic index	104
	III Imparting diet and therapeutic lifestyle counselling and promoting low glyceimic recipes among the diabetics of Tamil Nadu State Transport Corporation, Coimbatore	128
V	SUMMARY AND CONCLUSION	133
	BIBLIOGRAPHY	
	APPENDICES	

LIST OF TABLES

Table No.	Title	Page No.
I	COMPOSITION OF STANDARDISED RECIPES	46
II	GROUPS AND THE RESPECTIVE RECIPE FED FOR EVALUATING GLYCEMIC INDEX	49
III	DISTRIBUTION OF THE DIABETICS ACCORDING TO AGE AND TYPE OF DIABETES MELLITUS	64
IV	EDUCATIONAL STATUS OF THE DIABETICS	66
V	INCOME LEVEL OF DIABETICS	68
VI	FAMILY HISTORY OF SELECTED DIABETICS	70
VII	COMPLICATIONS PRESENT AMONG THE DIABETICS	72
VIII	ALCOHOL CONSUMPTION PATTERN OF THE SELECTED DIABETICS	75
IX	PATTERN OF SMOKING AND CHEWING PAN AMONG THE SELECTED DIABETICS	76
X	EXERCISE PATTERN OF THE SELECTED DIABETICS	78
XI	PATTERN OF STRESS AMONG THE SELECTED DIABETICS	79
XII	TYPE OF DIET CONSUMED BY THE DIABETICS	81
XIII	MEAN FOOD INTAKE OF SELECTED DIABETICS	83
XIV	MEAN NUTRIENT INTAKE OF DIABETICS	86
XV	PATTERN OF EATING FOOD OUTSIDE HOME	88
XVI	TYPE OF OIL CONSUMED BY DIABETICS	89
XVII	DISTRIBUTION OF THE DIABETICS ACCORDING TO BMI AND WHR	90
XVIII	MEAN BMI AND WHR VALUES	92
XIX	BLOOD GLUCOSE LEVELS OF THE DIABETICS	91

XX	DISTRIBUTION OF DIABETICS ACCORDING TO GLYCOSYLATED HAEMOGLOBIN VALUES (HbA _{1c})	93
XXI	MEAN BLOOD GLUCOSE AND GLYCOSYLATED HAEMOGLOBIN VALUES	95
XXII	DISTRIBUTION OF DIABETICS ACCORDING TO BLOOD LIPID LEVELS	98
XXIII	MEAN LIPID LEVELS OF THE DIFFERENT GROUPS OF SUBJECTS	100
XXIV	MEAN ACCEPTABILITY SCORES OF RECIPES INCORPORATED WITH SPROUTED LEGUME POWDERS	103
XXV	NUTRITIVE VALUE (per 100g) OF SELECTED RECIPES	106
XXVI	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPES	108
XXVII	MEAN BLOOD GLUCOSE LEVELS OF NON-DIABETIC SUBJECTS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE	110
XXVIII	GLYCEMIC INDICES OF THE TEST AND STANDARD RECIPES	124
XXIX	MEAN SCORES OBTAINED BEFORE AND AFTER COUNSELLING	129

LIST OF FIGURES

Figure No.	Title	Page No.
1	THEMES DEVELOPED AND AIDS USED IN COUNSELLING	53
2	METHODOLOGY – AT A GLANCE	60
3	TOTAL NUMBER OF STAFF IN THE TRANSPORT CORPORATION	63
4	EDUCATIONAL STATUS OF THE DIABETICS	67
5	INCOME LEVEL OF DIABETICS	69
6	COMPLICATIONS PRESENT AMONG THE DIABETICS	73
7	DISTRIBUTION OF DIABETICS ACCORDING TO GLYCOSYLATED HAEMOGLOBIN VALUES (HBA ₁ C)	96
8	BLOOD LIPID LEVELS OF THE DIFFERENT GROUPS OF SUBJECTS	101
9a	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE ADAI COMPARED WITH WHITE BREAD AND STANDARD ADAI	111
9b	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE DOSAI COMPARED WITH WHITE BREAD AND STANDARD DOSAI	112
9c	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE KOZUKATTAI COMPARED WITH WHITE BREAD AND STANDARD KOZUKATTAI	113
9d	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE PITTU COMPARED WITH WHITE BREAD AND STANDARD PITTU	114
10a	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED NON-DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE ADAI COMPARED WITH WHITE BREAD AND STANDARD ADAI	118

10b	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED NON-DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE DOSAI COMPARED WITH WHITE BREAD AND STANDARD DOSAI	119
10c	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED NON-DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE KOZUKATTAI COMPARED WITH WHITE BREAD AND STANDARD KOZUKATTAI	120
10d	MEAN BLOOD GLUCOSE LEVEL OF THE SELECTED NON-DIABETICS BEFORE AND AFTER THE ADMINISTRATION OF TEST RECIPE PITTU COMPARED WITH WHITE BREAD AND STANDARD PITTU	121
11	GLYCEMIC INDICES OF THE TEST AND STANDARD RECIPES	125
12	MEAN SCORES OBTAINED BEFORE AND AFTER COUNSELLING	130

LIST OF PLATES

Plate No.	Title	Page No.
1	MEASUREMENT OF HEIGHT AND WEIGHT	38
2	SPROUTED LEGUME POWDERS	43
3	LEGUME POWDER INCORPORATED RECIPES	47
4	COUNSELLING METHODS	54

LIST OF APPENDICES

Appendices

No.	Title
I	INTERVIEW SCHEDULE TO ELICIT INFORMATION ON HEALTH STATUS AND DIABETES MELLITUS AMONG EMPLOYEES OF TAMILNADU STATE TRANSPORT CORPORATION COIMBATORE DIVISION
IIa	ANALYSIS OF HbA _{1c} – PROCEDURE
IIb	ESTIMATION OF SERUM TOTAL CHOLESTEROL
III	RECIPES PREPARED WITH SPROUTED LEGUME POWDERS
IV	SCORE CARD TO RATE THE ACCEPTABILITY OF RECIPES
V	QUESTIONNAIRE TO ASSESS THE KNOWLEDGE OF DIABETIC TRANSPORT EMPLOYEES BEFORE AND AFTER DIET COUNSELLING
VI	FACTS OF DIABETES MELLITUS
VII	MENU FOR DIET MODIFICATION
VIII	RECIPES PREPARED WITH SPROUTED LEGUME POWDRES
IX	BENEFITS OF EXERCISE
X	POSTERS IN REGIONAL LANGUAGE - TAMIL
XI	FASTING BLOOD GLUCOSE LEVELS OF THE SELECTED SUBJECTS
XII	GLYCOSYLATED HAEMOGLOBIN (HbA _{1c}) LEVELS OF SELECTED SUBJECTS
XIII	TOTAL CHOLESTEROL LEVEL OF SELECTED SUBJECTS
XIV	BLOOD GLUCOSE LEVELS OF DIABETICS AFTER FEEDING THE TEST RECIPE AND WHITE BREAD
XV	BLOOD GLUCOSE LEVELS OF NON-DIABETICS AFTER FEEDING THE TEST RECIPE AND WHITE BREAD