Ronald Ross Watson

Complementary Alternative Therapies Aging Population

An Evidence-Based Approach



Contents

Preface

Acknowledgments Biography		xxi xxiii
Chapter 1	Botanical and Marine Oils for Treatment of Arthritis Robert B. Zurier and Ronald G. Rossetti	1
	CLINICAL TRIALS OF GLA THERAPY IN RA PATIENTS CLINICAL TRIALS OF FISH OIL IN RA PATIENTS LIPIDS AND LUPUS REFERENCES	7 9 10 11
Chapter 2	Prolotherapy for Chronic Musculoskeletal Pain David Rabago	15
	INTRODUCTION	16
	CURRENT PROLOTHERAPY USE	16
	IN VITRO AND ANIMAL MODEL EVIDENCE	17 18
	CLINICAL TRAIL EVIDENCE CASE REPORTS, CASE SERIES AND	10
	NON-RANDOMIZED STUDIES	18
	CASE SERIES AND NON-RANDOMIZED PROLOTHERAPY	10
	STUDIES FOR LOW BACK PAIN	32
	CLINICAL TRIALS ASSESSING PROLOTHERAPY	
	FOR LOW BACK PAIN	33
	CLINICAL TRIALS ASSESSING PROLOTHERAPY	
	FOR TENDINOPATHIES	34
	CLINICAL TRIALS ASSESSING	25
	PROLOTHERAPY FOR OSTEOARTHRITIS ADVERSE EFFECTS OF PROLOTHERAPY	35 37
	PROLOTHERAPY RESEARCH	37
	CLINICAL RECOMMENDATIONS	38
	REFERENCES	38

xix

Chapter 3	Soy and Cognition in the Aging Population Lauren L. Drogos, Stacie Geller and Pauline M. Maki	45
	INTRODUCTION	45
	USE OF SOY AND SOY ISOFLAVONES	46
	ESTROGEN, SOY AND BRAIN FUNCTION	46
	COGNITIVE-ENHANCING EFFECTS OF ESTROGEN	47
	COGNITIVE-ENHANCING EFFECTS OF SOY IN WOMEN EVIDENCE THAT MALES MAY NOT BENEFIT	49
	FROM SOY	52
	GENERAL SUMMARY	53
	REFERENCES	53
Chapter 4	Valerian and Other CAM Botanicals in	r.77
	Treatment of Sleep Disturbances Diana M. Taibi and Carol A. Landis	57
	SLEEP AND AGING	58
	Insomnia	58
	Advanced Sleep Phase Disorder (ASPD)	60
	Periodic Limb Movements in Sleep	
	(PLMS) and Restless Legs Syndrome (RLS)	60
	Sleep Disordered Breathing	60
	Consequences of Sleep Disturbances	
	in Older Adults	61
	HERBS USED AS SLEEP AIDS	
	(COMMISSION E RECOMMENDED)	61
	Valerian	61
	Hops	64
	Lemon Balm	65 45
	Lavender	65 66
	OTHER HERBS USED AS SLEEP AIDS	66
	Passion Flower	67
	Kava Chamomile	68
	NON-BOTANICAL SUPPLEMENTS	68
	Melatonin	68
	L-tryptophan and 5-HTP	70
	GENERAL SAFETY CONSIDERATIONS	
	FOR OLDER ADULTS	71
	SUMMARY AND CONCLUSIONS	72
	REFERENCES	72
Chapter 5	Botanicals and Nutrition in the	
Oliopioi >	Treatment of Epilepsy	83
	Siegward-M. Elsas	
	INTRODUCTION	83
	WESTERN HERBAL MEDICINE	84

	Ginkgo biloba	84
	Marijuana Passionflower	85 85
	TRADITIONAL CHINESE MEDICINE (TCM)	86
	Piper nigrum/Antiepilepsirine	86
	AYURVEDIC MEDICINE	87
	ANTHROPOSOPHIC MEDICINE AND HOMEOPATHY	87
	Viscum	87
	Belladonna and Hyoscyamus	87
	Bufo Rana	88
	Arnica	88
	NUTRITIONAL APPROACHES TO EPILEPSY	88
	Ketogenic Diet	88
	Modified Atkins Diet	88
	GABA	89
	Progesterone	89
	Melatonin Taurine	90 90
	Pyridoxine	90
	Magnesium	91
	Zinc	91
	ACKNOWLEDGMENTS	91
	REFERENCES	91
Chapter 6	Ginkgo biloba Extract in Prevention of Age-Associated Diseases in Elderly Population Yuan Luo and Zhiming Cao	97
	INTRODUCTION AGE-DEPENDENT DEGENERATIVE	97
	DISEASES IN ELDERLY	98
	CURRENT THERAPEUTIC APPLICATIONS FOR AD	99
	GINKGO BILOBA EXTRACT EGB 761	99
	EGB 761 EXTENDS LIFE SPAN, DELAYS	
	SACROPENIA AND Aβ-INDUCED TOXICITY	
	IN EXPERIMENTAL ANIMALS	101
	CLINICAL EVIDENCE SUPPORTING	106
	EFFICACY OF EGB 761 IN AD DEMENTIA EGB COMPARED WITH THE FIRST LINE	106
	DRUG FOR AD (ARICEPT)	107
	"AN OZ PREVENTION IS WORTH A POND OF	101
	CURE": THE ONGOING PREVENTION TRIAL FOR	
	EGB 761 ON DEMENTIA	108
	SIDE EFFECTS AND QUALITY ISSUE OF EGB 761	110
	ACKNOWLEDGMENT	111
	REFERENCES	111

Chapter 7 Policosanol to Manage Dyslipidemia in Older Adults Barbara Swanson and Joyce Keithley	17
PHARMACOLOGICAL PROFILE	117
Chemistry	117
Mechanism of Action	118
Train acommone	119
10/10/10/	119
Drug Interactions	120
REVIEW OF STUDIES	121
Overview of Older Studies/Systematic Reviews	121
Review of Recent Studies: 2004–2007	121
Studies of Older Adults	125
IMPLICATIONS FOR OLDER ADULTS	129
CONCLUSIONS	130
REFERENCES	130
Chapter 8 Health Promoting Benefits of Chamomile in the Elderly Population Janmejai K. Srivastava and Sanjay Gupta	35
	136
INTRODUCTION	136
HISTORY OF CHAMOMILE PLANT DESCRIPTION AND NOMENCLATURE	137
CHEMICAL CONSTITUENTS OF CHAMOMILE	137
CHAMOMILE PREPARATIONS AND THEIR	1)(
COMMON USES	138
Dry Powder of Heads	138
Standardized Extract	138
Oral Infusion	139
Tea Preparation	139
Tincture	139
Poultice	139
Herb Beers and Lotion	140
Bath Additive	140
Gargle	140
Inhalation	140
Chamomile Wine	140
Chamomile Vapor Bath	140
Homeopathic Medicine	141
Aromatherapy and Massage Oil	141
Cosmetic Preparations	141
Dosage Recommendation	141
USE OF CHAMOMILE IN TRADITIONAL PRACTICE	142
USE OF CHAMOMILE BASED ON SCIENTIFIC	- · -
	142
EVIDENCE	
EVIDENCE Common Cold	142

	Colic/Diarrhea Conditions	143
	Eczema	144
	Gastrointestinal Conditions	144
	Hemorrhagic Cystitis Conditions	145
	Hemorrhoids	145
	Health Promotion	145
	Inflammatory Conditions	145
	Mucositis	146
	Osteoporosis	146
	Sleep Aid/Sedation	146
	Sore Throat/Hoarseness	147
	Vaginitis	148
	Wound Healing	148
	Anticancer Activity	148
	Quality of Life in Cancer Patients	149
	ADVERSE EFFECTS, ALLERGIC REACTIONS,	
	AND SAFETY ISSUES	149
	CONCLUSIONS	150
	ACKNOWLEDGMENTS	151
	REFERENCES	151
Chapter 9	Bamboo Extract in the Prevention	
Chapter 9	of Diabetes and Breast Cancer Jun Panee	159
	INTRODUCTION OBESITY, LIPOTOXICITY, DIABETES AND	159
	THE PREVENTIVE EFFECTS OF BEX ENVIRONMENTAL POLLUTANTS, BREAST	161
	CANCER, AND THE PREVENTIVE EFFECT	
	OF BEX	166
	LINKS BETWEEN OBESITY AND BREAST	
	CANCER AND HYPOTHESES ON MORE	
	FUNCTIONS OF BEX	168
	SUMMARY	170
	ACKNOWLEDGMENTS	170
	REFERENCES	170
-•		•
Chapter 10	Cranberry and Other Dietary	
	Supplements for the Treatment of	
	Urinary Tract Infections in	. = 0
	Aging Women Lynn Stothers	179
	INTRODUCTION	179
	MECHANISMS OF LOWER URINARY TRACT	117
	INFECTION	180

	DESIRE FOR NON-ANTIBIOTIC INTERVENTIONS	
	FOR PREVENTION OR MANAGEMENT	181
	Cranberries	181
	Cranberries and Prevention of UTIs	182
	Cranberries and Treatment of UTIs	183
	OTHER HERBS OR VITAMINS	184
	POTENTIAL FOR ADVERSE SIDE EFFECTS	185
	Cranberries	185
	Others	186
	POTENTIAL SUPPLEMENTARY BENEFITS	
	OF CRANBERRIES	186
	SUMMARY	187
	REFERENCES	187
Chapter 11	Black Cohosh: Chemopreventive	
	and Anticancer Potential	193
•	Linda Saxe Einbond	
	INTRODUCTION	194
	BACKGROUND	194
	Historical Use	194
	Current Use	196
	Chemical Constituents	196
	Extracts Vs. Pure Compounds	197
	EPIDEMIOLOGIC STUDIES	199
	IN VITRO STUDIES	201
	Growth Inhibitory Effects on Breast Cancer	201
	Anti-Angiogenic Effects on Breast Cancer	202
	Growth Inhibitory Effects on Prostate Cancer	202
	Growth Inhibitory Effects on Oral Cancer	203
	Effects on EBV-EA: Structure-Activity Relations	203
	Growth Inhibitory Effects in Combination	
	with Chemotherapy Agents	204
	Effects of Black Cohosh Extracts and	
	Components on Other Biological Activties	205
	IN VIVO STUDIES	206
	Effects on Prostate Cancer	207
	Effects on Skin Cancer	207
	Effects on Breast Cancer	209
	Summary of Animal Studies	210
	MODE OF ACTION	210
	Effects of Extracts and Components	
	on Apoptosis and the Cell Cycle	210
	Molecular Effects of Triterpene and Cardiac	
	Glycosides	211
	Effects of Actein and the Methanolic Extract on the	
	Unfolded Protein Response	212
	Comparison to the Mode of Action of	
	Synthetic Oleananes	215

Bioavailability 216 Clinical Studies 217 Animal Studies 218 CONCLUSIONS 218 ACKNOWLEDGMENTS 219 REFERENCES 219 Chapter 12 Integrating Comprehensive and Alternative Medicine into Stroke Herbal Treatment of Ischemia 229 Baowan Lin INTRODUCTION 229 Stroke Treatment in Western Medicine (Orthodox Medicine) 229 Stroke Treatment of Comprehensive and Alternative Medicine (Orthodox Medicine) 229 Stroke Treatment of Comprehensive and Alternative Medicine (CAM) 230 BRAIN ISCHEMIA 231 Focal Brain Ischemia 231 Global Forebrain Ischemia 232 BASIC THEORY ABOUT STROKE IN TCM 233 TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke 233 Strategy of Treatment. Prompting Blood Circulation and Rebalancing Yin and Yang In Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Herbs 236 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 The Economic Model 278 The Economic Model 278 The Economic Model 278 Colodemographic Determinants of CAM USE 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		SAFETY	216
Animal Studies 218 18 19 19 19 19 19 19			216
In Vitro Studies		Clinical Studies	217
CONCLUSIONS		Animal Studies	217
ACKNOWLEDGMENTS REFERENCES 219		In Vitro Studies	218
Chapter 12		CONCLUSIONS	218
Chapter 12 Integrating Comprehensive and Alternative Medicine into Stroke Herbal Treatment of Ischemia 229 Baowan Lin INTRODUCTION 229 Stroke Treatment in Western Medicine (Orthodox Medicine) 229 Stroke Treatment of Comprehensive and Alternative Medicine (CAM) 230 BRAIN ISCHEMIA 231 Focal Brain Ischemia 231 Global Forebrain Ischemia 233 BASIC THEORY ABOUT STROKE IN TCM 233 TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke 233 Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Herbs 256 ACKNOWLEDGMENT 263 ACKNOWLEDGMENT 263 ACKNOWLEDGMENT 263 ACKNOWLEDGMENT 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 THE THEORIES 276 The Behavioral Model 277 THE THEORIES 276 The Behavioral Model 277 The Economic Model 277 The Economic Model 278 Age 281		ACKNOWLEDGMENTS	219
Alternative Medicine into Stroke Herbal Treatment of Ischemia Baowan Lin INTRODUCTION Stroke Treatment in Western Medicine (Orthodox Medicine) (Orthodox Medicine) Stroke Treatment of Comprehensive and Alternative Medicine (CAM) Alternative Medicine (CAM) BRAIN ISCHEMIA Global Forebrain Ischemia Global Forebrain Ischemia BASIC THEORY ABOUT STROKE IN TCM Causes Işchemia, Wind Stroke Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney Inchemial TREATMENT Formulae Herbs ACKNOWLEDGMENT REFERENCES Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION THE THEORIES The Behavioral Model The Economic Model Sociodemographic Determinants of CAM USE Sociodemographic Determinants of C		REFERENCES	219
INTRODUCTION 229 Stroke Treatment in Western Medicine (Orthodox Medicine) 229 Stroke Treatment of Comprehensive and Alternative Medicine (CAM) 230 BRAIN ISCHEMIA 231 Focal Brain Ischemia 232 BASIC THEORY ABOUT STROKE IN TCM 233 TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke 233 Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 The Behavioral Model 277 THE THEORIES 276 The Behavioral Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 281 Age 281	Chapter 12		
Stroke Treatment in Western Medicine (Orthodox Medicine) 229			229
(Orthodox Medicine) 229 Stroke Treatment of Comprehensive and Alternative Medicine (CAM) 230 BRAIN ISCHEMIA 231 Focal Brain Ischemia 231 Global Forebrain Ischemia 232 BASIC THEORY ABOUT STROKE IN TCM 233 TCM Emphasizes that Blood Supply Decline Causes Ischemia, Wind Stroke 233 Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 277 The ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		INTRODUCTION	229
Stroke Treatment of Comprehensive and Alternative Medicine (CAM) BRAIN ISCHEMIA Focal Brain Ischemia Global Forebrain Ischemia BASIC THEORY ABOUT STROKE IN TCM TCM Emphasizes that Blood Supply Decline Causes Ischemia, Wind Stroke Causes Ischemia, Wind Stroke Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney ISCHEMIA TREATMENT FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT Formulae Herbs ACKNOWLEDGMENT REFERENCES Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION THE THEORIES The Behavioral Model THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281		Stroke Treatment in Western Medicine	
Alternative Medicine (CAM) BRAIN ISCHEMIA Focal Brain Ischemia Global Forebrain Ischemia BASIC THEORY ABOUT STROKE IN TCM TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke Causes Işchemia, Wind Stroke Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 1233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 1234 Formulae Herbs ACKNOWLEDGMENT REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION THE THEORIES The Behavioral Model THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281		(Orthodox Medicine)	229
BRAIN ISCHEMIA 231 Focal Brain Ischemia 232 Global Forebrain Ischemia 232 BASIC THEORY ABOUT STROKE IN TCM 233 TCM Emphasizes that Blood Supply Decline Causes Ischemia, Wind Stroke 233 Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 The THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		Stroke Treatment of Comprehensive and	
Rocal Brain Ischemia 231 Global Forebrain Ischemia 232 BASIC THEORY ABOUT STROKE IN TCM 233 TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke 233 Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 The THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		Alternative Medicine (CAM)	230
Global Forebrain Ischemia 232 BASIC THEORY ABOUT STROKE IN TCM 233 TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke 233 Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		BRAIN ISCHEMIA	231
BASIC THEORY ABOUT STROKE IN TCM TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT Formulae Herbs ACKNOWLEDGMENT REFERENCES Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION THE THEORIES The Behavioral Model The Economic Model THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 233 233 234 235 235 236 237 238 238 239 239 239 239 239 230 239 239 239 230 230 231 231 232 233 233 233 233 233 233 233		Focal Brain Ischemia	231
TCM Emphasizes that Blood Supply Decline Causes Işchemia, Wind Stroke Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT Formulae Herbs ACKNOWLEDGMENT REFERENCES Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION THE THEORIES The Behavioral Model The Economic Model The Economic Model AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 233 234 432 235 236 237 238 239 249 250 261 275 276 276 277 276 277 277 278 278		Global Forebrain Ischemia	232
Causes Ischemia, Wind Stroke Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 1233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model The Economic Model THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 233 233 234 235 236 237 238 238 239 239 239 239 239 239 239 239 239 239			233
Strategy of Treatment: Prompting Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 277 The CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 280		TCM Emphasizes that Blood Supply Decline	
Blood Circulation and Rebalancing Yin and Yang in Liver and Kidney 233 FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281			233
in Liver and Kidney FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT Formulae Herbs ACKNOWLEDGMENT REFERENCES Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION THE THEORIES The Behavioral Model The Economic Model The Economic Model The CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 1233 234 234 234 234 234 234 234 234 234			
FORMULAE AND MAJOR HERBS FOR ISCHEMIA TREATMENT 234 Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 281		Blood Circulation and Rebalancing Yin and Yang	
ISCHEMIA TREATMENT Formulae Herbs 234 Herbs 256 ACKNOWLEDGMENT REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 281			233
Formulae 234 Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281			
Herbs 256 ACKNOWLEDGMENT 263 REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		ISCHEMIA TREATMENT	
ACKNOWLEDGMENT REFERENCES 263 Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 281			
Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281			
Chapter 13 Socioeconomic Aspects of the Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281			
Use of Complementary and Alternative Medicine 275 K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		REFERENCES	263
Alternative Medicine K. Tom Xu INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281	Chapter 13		
INTRODUCTION 275 THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		•	
THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281			275
THE THEORIES 276 The Behavioral Model 277 The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281		INTRODUCTION	2 7 5
The Economic Model 278 THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS 280 SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281			276
THE CONVERGENCE OF THE BEHAVIORAL AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 281		The Behavioral Model	277
AND THE ECONOMIC MODELS SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE Age 280 281			278
SOCIODEMOGRAPHIC DETERMINANTS OF CAM USE 281 Age 281			280
Age 281			
			
dender		Gender	282

	Race, Ethnicity, Culture and Acculturation	282
	Health Beliefs and Education ECONOMIC DETERMINANTS OF CAM USE	285 286
		286
	Price	286
	Insurance Income	287
	CAM AS A SUBSTITUTE FOR OR A COMPLEMENT	
	OF MAINSTREAM MEDICINE	288
	BARRIERS TO CAM USE	289
	CONCLUSION	290
	REFERENCES	291
Chapter 14	Noni (M <i>orinda citrifolia</i>) Fruit as a	
	Functional Food and Dietary	
	Supplement for an Aging Population Amy C. Brown and Noelani Apau-Ludlum	299
	INTRODUCTION	300
	NATURAL HISTORY	302
	NONI AS A FUNCTIONAL FOOD	303
	Popular Uses of Noni	303
	MEDICINAL USES OF NONI	304
	Noni and Blood Pressure	305
	Noni and Anti-inflammation	305
	Noni and Osteoporosis	306
	Noni and Tuberculosis	306
	Noni and HIV	307
	Cancer	307 308
	SAFETY OF NONI	309
	Drug–Supplement Interaction LIMITATION	309
	EVIDENCED-BASED CLINICAL RESPONSE FOR	309
	SENIORS	310
	Medical Care	310
	Body of Evidence	310
	Potassium-Restricted Diets	311
	Research Limitations	311
	ACKNOWLEDGMENTS/DISCLOSURES	311
	REFERENCES	312
Chapter 15	Botanical Treatment for Polycystic	
	Ovary Syndrome Sidika E. Kasim-Karakas and Susmita Mishra	317
	CLINICAL CHARACTERISTICS OF THE PCOS PATIENTS	317
	TARGETED USE OF BOTANICALS FOR PCOS	319
	Ovarian dysfunction	319
	Metabolic Abnormalities	323
	REFERENCES	327

Chapter 16	Eggs and Health: Nutrient Sources and Supplement Carriers Gita Cherian	333
	INTRODUCTION	333
	EGG COMPOSITION	334
	Lipids	334
	Egg Fatty Acids	335
	Saturated Fatty Acids	335
	Monounsaturated Fatty Acids	336
	Omega-6 (n-6) and Omega-3 (n-3) Polyunsaturated Fatty Acids	336
	Sterols	337
	EGG PROTEINS	337
	EGG MICRONUTRIENTS	337
	DIET AND HEALTH	338
	CHICKEN EGGS AS FUNCTIONAL FOODS	
	AND SUPPLEMENT CARRIERS	338
	Why Omega-3 Fatty Acids?	340
	Conjugated Linoleic Acids (CLA) Choline ⁱ	340 342
	Sphingolipids	342
	Vitamins and Minerals	343
	Egg Pigments	343
	CHICKEN EGGS AS FUNCTIONAL FOODS	
	AND SUPPLEMENT CARRIERS – FUTURE	344
	ACKNOWLEDGMENTS	344
	REFERENCES	345
Chapter 17	Berries and Cancer Paul E. Milbury	347
	INTRODUCTION	347
	WHAT IS A BERRY? A SHORT HISTORY OF FRUIT AND VEGETABLE	348
	INTAKE AND CANCERS	351
	PHYTOCHEMICALS IN BERRIES CURRENT THEORIES REGARDING	352
	CHEMOPROTECTION AND ANTI-TUMORIGENIC	
	PHYTOCHEMICAL COMPOUNDS	353
	IN VITRO EVIDENCE OF BERRY	
	CHEMOPREVENTION	355
	PHYTOCHEMICALS IN VITRO AND IN VIVO IN VIVO EVIDENCE OF BERRY	359
	CHEMOPREVENTION	360
	CONCLUSIONS	363
	REFERENCES	363

Chapter 18	Flavonoids and Cardiovascular Health Pon Velayutham Anandh Babu and Dongmin Liu	371
	INTRODUCTION	371
	STRUCTURE AND CLASSIFICATION	372
	Tea Flavonoids	373
	Absorption	375
	EPIDEMIOLOGICAL STUDIES	375
	BIOCHEMICAL MECHANISMS	376
	Antioxidant Effect	376
	Effect on Lipid Profile Effect on Vascular Homeostasis	380
	Effect on Platelet Abnormalities	382
	CONCLUSION	384 385
	ACKNOWLEDGMENT	386
	REFERENCES	386
Chapter 19	Ibogaine and the Treatment of	
	Opiate Addiction	393
	Emily J. Richer	
	INTRODUCTION	393
	HISTORY OF IBOGAINE	394
	IBOGAINE AND LEGAL ISSUES	395
	PHARMACOLOGY OF IBOGAINE	395
	STUDIES ABOUT IBOGAINE	396
	EFFECTS OF IBOGAINE	397
	IBOGAINE ADMINISTRATION	397
	RISKS OF IBOGAINE	399
	OPIOID ADDICTION AND TREATMENT	399
	CONCLUSION AND RECOMMENDATIONS	400
	REFERENCES	401
Chapter 20	The Potential of Caffeine for the	
	Inhibition of Cognitive Decline	
	in the Aged	403
	Gabriel Keith Harris and Caroline R. Summers	
	INTRODUCTION	403
	CAFFEINE CHEMISTRY AND CONSUMPTION	
	PATTERNS	404
	CAFFEINE MECHANISMS	405
	CAFFEINE AND NORMAL AGING	407
	CAFFEINE AND DISEASE PREVENTION	408
	NEGATIVE SIDE EFFECTS OF CAFFEINE	410
	INTERACTIONS BETWEEN DIET AND CAFFEINE	411
	SUMMARY	411
	REFERENCES	412

Chapter 21	Five or More Servings of Fruit and Vegetables Each Day for Better	415
	Health! Lyn M. Steffen	417
	INTRODUCTION PREVALENCE OF FRUIT AND VEGETABLE	418
	CONSUMPTION	418
	NUTRIENTS AND FOOD COMPOUNDS	
	IN FRUIT AND VEGETABLES	419
	Bioactive Compounds	419
	Total Antioxidant Capacity	419
	Nutrient- vs. Food-Based-Disease Relations FRUIT AND VEGETABLE INTAKE REDUCES	420
	THE RISK OF CHRONIC DISEASE	420
	Heart Disease and Stroke	421
	Peripheral Artery Disease	422
	Type 2 Diabetes	423
	CVD Risk Factors	423
	Cancer Bone Health	424 425
	Obesity	425
	HEALTH PROMOTION AND BEHAVIOR CHANGE Interventions to Promote Fruit and	425
	Vegetable Consumption	426
	CONCLUSION	426
	REFERENCES	427
Chapter 22	Medicinal Uses of Vinegar Carol S. Johnston	433
	OVERVIEW	433
	MEDICINAL USES OF VINEGAR	434
	Antimicrobial Properties	435
	Cardiovascular Disease	435
	Cancer	436
	Diabetes	436
	Obesity	438
	SAFETY AND TOLERANCE OF MEDICINALLY	
	INGESTED VINEGAR	439
•	CONCLUSIONS	440
	REFERENCES	440
Chapter 23	Health-Promoting Effects of	
	Grape Bioactive Phytochemicals Marcello Iriti and Franco Faoro	445
	INTRODUCTION	44'
	GRAPE CHEMISTRY	44'

	OXIDATIVE STRESS AND MUTAGENESIS	449
	CANCER CHEMOPREVENTION	453
	ALCOHOL	458
	ATHEROSCLEROSIS, CARDIOVASCULAR	
	DISEASES AND CEREBROVASCULAR	459
	ACCIDENTS	462
	AGING	463
	NEUROPROTECTION CONCLUSIONS	464
	ACKNOWLEDGMENTS	465
	REFERENCES	465
Chapter 24	Isoflavones Made Simple – Agonist Activity	
	for the Beta-type Estrogen Receptor	
	May Mediate Their Health Benefits	475
	Mark F. McCarty	
	PHYSIOLOGICAL CONCENTRATIONS OF FREE	
	GENISTEIN ACTIVATE ESTROGEN RECEPTOR-BETA	476
	S-EQUOL ALSO ACTS AS ERBETA AGONIST	478
	IRRELEVANCE OF OTHER SUSPECTED EFFECTS	478
	SOY ISOFLAVONES HAVE NO DIRECT HEPATIC	
	EFFECTS	479
	NO UTEROTROPHIC ACTIVITY	480
	GENISTEIN UP-REGULATES ENOS ACTIVITY	400
	IN VASCULAR ENDOTHELIUM	480
	IMPROVED INSULIN SENSITIVITY	483
	FAVORABLE EFFECTS ON BONE METABOLISM	483
	REDUCING PROSTATE AND COLORECTAL	485
	CANCER RISKS ISOFLAVONES AND THE BREAST – SAFE	40)
	AND POSSIBLY PROTECTIVE	487
	MODESTLY EFFECTIVE FOR HOT FLASHES	489
	POTENTIAL FOR PREVENTION OF	.07
	GLOMERULOSCLEROSIS	489
	POTENTIAL FOR PREVENTION OF LEFT	
	VENTRICULAR HYPERTROPHY AND HEPATIC	
	FIBROSIS	492
	DIRECTIONS FOR FUTURE RESEARCH	493
	ACKNOWLEDGMENT	494
	REFERENCES	494
01	Circul Thereny, Dropolis and Donner	
Chapter 25	Signal Therapy: Propolis and Pepper	523
	Extracts as Cancer Therapeutics Hiroshi Maruta and Toshiro Ohta)2)
	INTRODUCTION	523
	PAKI and Cancers	523

	PROPOLIS	525
	NZ Propolis (CAPE-based)	528 520
	NZ Propolis as NF/Cancer Therapeutics Brazilian Propolis (ARC-based)	529 530
	PEPPER EXTRACTS	532
	Chinese (Sichuan) Pepper Extract	532
	Chili Pepper Extract	533
	Capsiate	535
	NADA as an Endogenous Capsaicin	535
	OGF (OPIOID GROWTH FACTOR)	536
	ACKNOWLEDGMENT	536
	REFERENCES	536
Chapter 26	Health Benefits of Traditional Culinary and Medicinal	
	Mediterranean Plants	541
	Stephanie C. Degner, Andreas	· · · ·
	Papoutsis and Donato F. Romagnolo	
	INTRODUCTION	541
	ROSEMARY	542
	LICORICE (OR LIQUORICE)	546
	CHAMOMILE	547
	OLIVE OIL	548
	REFERENCES	553
Chapter 27	Quercetin: A Potential	
	Complementary and Alternative	
		E (2)
	Cancer Therapy Thilakavathy Thangasamy,	563
	Thilakavuing Thangasamy, Sivanandane Sittadjody and Randy Burd	
	INTRODUCTION	563
	ABSORPTION OF QUERCETIN	564
	QUERCETIN DOSAGE AND ACHIEVABLE	
	BLOOD CONCENTRATION	565
	ANTIOXIDANT AND PRO-OXIDANT ACTIVITY OF	
	QUERCETIN	567
	MOLECULAR ACTIONS OF QUERCETIN	570
	Cell Cycle, DNA Damage and Apoptosis	570
	QUERCETIN AND CANCER TREATMENT	5 7 1
	QUERCETIN METABOLITES AS BIOMARKERS	57 3
	CONCLUSION	575
	REFERENCES	576

585

Index