Part II  Safety, Efficacy, and Action Mechanisms of Anti-obesity Medicinal Plants

3  Anti-obesity Medicinal Plants ........................................ 59
   3.1 Introduction ........................................ 59
   3.2 Appetite Regulation .................................... 60
   3.3 Enzymes Inhibition ...................................... 63
   3.4 Inhibitors of Adipogenesis and Adipogenic Factors .......... 68
   3.5 Stimulators of Thermogenesis ............................. 71
   3.6 Increase Satiety ......................................... 71
   3.7 Commonly Used Anti-obesity Medicinal Plants ............... 73
   References .................................................... 89

4  Prevention and Treatment of Obesity-Related Diseases by Diet and Medicinal Plants .............. 95
   4.1 Introduction ............................................ 95
   4.2 Strategy to Prevent Inflammatory Responses in Obese Adipose Tissues by Medicinal Plants and Phytochemicals 97
      4.2.1 Medicinal Plant Diets That Act Through PPARγ-Dependent Pathways 101
      4.2.2 Medicinal Plant Diets That Act Through PPARγ-Independent Pathways 105
   4.3 Medicinal Plants and Phytochemical-Based Strategies to Prevent Obesity-Related Hypertension 114
   4.4 The Mediterranean Diet .................................. 118
   References .................................................... 124

5  Herbal-Derived Anti-obesity Compounds and Their Action Mechanisms .................................. 129
   5.1 Introduction ............................................ 129
   5.2 Phytochemical Compounds Used for the Treatment of Obesity 132
   5.3 Major Basic Anti-obesity Mechanisms ...................... 133
   5.4 Targeting Adipose Tissue ................................ 136
   References .................................................... 141

Part III  Safety, Efficacy, and Action Mechanisms of Anti-diabetes Medicinal Plants

6  Antidiabetic Medicinal Plants .................................... 147
   6.1 Introduction ............................................ 147
   6.2 Herbal-Based Diabetes Mellitus Remedies .................. 148
   6.3 Plant Mixtures Used in The Treatment of Diabetes ........ 164
   6.4 Antidiabetic Phytochemicals .............................. 165
   References .................................................... 167
7 Antidiabetic Medicinal Plants and Their
Mechanisms of Action ........................................ 175
7.1 Introduction ............................................. 175
7.2 Strategies for the Glycemic Control ................. 179
7.3 Antidiabetic Medicinal Plants and Their Mechanisms
of Action ......................................................... 182
  7.3.1 Increased Pancreatic Secretion of Insulin: Augmentation
       of the Pancreas and Increased Insulin Sensitivity ........ 182
  7.3.2 Inhibition of Glucose Production in the Liver .......... 187
  7.3.3 Enhanced Glucose Uptake in the Muscle
       and Adipose Tissues ...................................... 190
  7.3.4 Inhibition of Glucose Absorption ...................... 195
  7.3.5 Inhibition of Diabetes-Related Complications .......... 199
References ..................................................... 206

Part IV Polyherbal Formulations Used in the Prevention/Treatment
of Obesity and Diabetes

8 Hypoglycemic and Anti-obesity Polyherbal Mixtures ............ 217
  8.1 Introduction ............................................. 217
  8.2 The Concept of Synergistic Effects in the Main
       Traditional Medical Systems ............................. 220
  8.3 Synergistic Actions of Phytochemicals and Their
       Action Mechanisms ....................................... 226
  8.4 Clinical and Experimental Studies on Hypoglycemic
       and Anti-obesity Effects of Herbal Formulations ........ 228
  8.5 Commonly Used Herbs in Polyherbal Mixtures .............. 238
  8.6 Food Synergy: Diabetes Preventive Components
       in the Mediterranean Diet ............................... 242
  8.7 Honey: A Natural Polyherbal Formula ...................... 245
References ..................................................... 247

Index .......................................................... 253
Anti-diabetes and Anti-obesity Medicinal Plants and Phytochemicals
Safety, Efficacy, and Action Mechanisms
Saad, B.; Zaid, H.; Shanak, S.; Kadan, S.
2017, XIV, 257 p. 55 illus., 53 illus. in color., Hardcover
ISBN: 978-3-319-54101-3