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**BODY COMPOSITION AND METABOLIC  
SYNDROME FEATURES IN  
OVERWEIGHT AND  
OBESE WOMEN**

**Dissertação apresentada com vista à obtenção do grau de Doutor no ramo  
de Motricidade Humana, na especialidade de Saúde e Condição Física**

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*To my family,  
my wife and daughter,  
friends and colleagues*

# CONTENTS

<b>Abbreviations</b> .....	7
<b>Chapter 1</b> — GENERAL INTRODUCTION .....	8
Introduction .....	9
Obesity .....	11
Obesity management .....	13
Health risk: metabolic syndrome and cardiovascular disease .....	18
Weight loss: body composition changes and health risk reduction .....	24
Waist circumference and hip circumference: relations with health risk .....	29
Visceral adiposity and health risk .....	34
Thigh adiposity and health risk .....	38
Skeletal muscle tissue and health risk .....	40
Ectopic fat storage and adipokines metabolism ...	42
Leptin .....	44
Adiponectin .....	46
PAI-1 .....	49
TNF- $\alpha$ .....	52
IL-6 .....	54
Liver fat storage and health risk .....	59
Aim .....	62
References .....	64
<b>Chapter 2</b> — METHODOLOGY .....	84
Subjects .....	85
Body composition assessments .....	86
Blood analysis .....	91
Blood pressure .....	91
Cardiorespiratory fitness .....	92
Statistical analysis .....	92
References .....	94

<b>Chapter 3</b>	– INDEPENDENT AND OPPOSITE ASSOCIATIONS OF HIP AND WAIST CIRCUMFERENCE WITH METABOLIC SYNDROME COMPONENTS, PROINFLAMMATORY AND ATHEROTHROMBOTIC RISK FACTORS IN OVERWEIGHT AND OBESE WOMEN .....	96
	Abstract .....	98
	Introduction .....	99
	Subjects and methods .....	100
	Results .....	104
	Discussion .....	110
	Conclusion .....	115
	Ackowledgments .....	115
	References .....	116
 <b>Chapter 4</b>	 – ASSOCIATIONS BETWEEN ABDOMINAL AND THIGH ADIPOSE TISSUE COMPARTMENTS AND METABOLIC SYNDROME FEATURES IN OVERWEIGHT AND OBESE WOMEN .....	 120
	Abstract .....	122
	Introduction .....	123
	Subjects and methods .....	124
	Results .....	129
	Discussion.....	135
	Conclusion .....	139
	Ackowledgments .....	140
	References .....	141
 <b>Chapter 5</b>	 – OPPOSITE ASSOCIATIONS OF ABDOMINAL AND THIGH ADIPOSE TISSUE WITH LIVER FAT IN OVERWEIGHT AND OBESE WOMEN .....	 144
	Abstract .....	146
	Introduction .....	147
	Subjects and methods .....	148
	Results .....	153
	Discussion .....	159
	Conclusion .....	163
	Ackowledgments .....	164
	References .....	165
 <b>Chapter 6</b>	 – DISCUSSION .....	 168
	References.....	183

<b>Chapter 7</b>	— CONCLUSION .....	190
<b>Acknowledgments</b>	.....	196
<b>About the author</b>	.....	198
<b>Publications</b>	.....	200

# ABBREVIATIONS

<b>Ab SAT</b> - Abdominal subcutaneous adipose tissue	<b>IR</b> - Insulin resistance
<b>ACSM</b> - American College of Sports Medicine	<b>IRS-1</b> - Insulin receptor substrate-1
<b>ACTH</b> - Adrenocorticotrophic hormone	<b>LDL-C</b> - Low-density lipoprotein cholesterol
<b>ADA</b> - American Diabetes Association	<b>LDM</b> - Low-density muscle
<b>AHA</b> - American Heart Association	<b>LPL</b> - Lipoprotein lipase
<b>ALT</b> - Alanine aminotransferase	<b>LSR</b> - Liver-to-spleen ratio
<b>AMPK</b> - AMP-activated protein kinase	<b>MRI</b> - Magnetic resonance imaging
<b>Apo B</b> - Apolipoprotein B	<b>NASH</b> - Non-alcoholic steatohepatitis
<b>Apo E</b> - Apolipoprotein E	<b>NCEP-ATP III</b> - Third Report of the National Cholesterol Education Program's Adult Treatment Panel
<b>AST</b> - Aspartate aminotransferase	<b>NEAT</b> - Non-exercise activity thermogenesis
<b>AT</b> - Adipose tissue	<b>NHANES</b> - National Health and Examination Survey
<b>BMI</b> - Body mass index	<b>NHLBI</b> - National Heart, Lung, and Blood Institute
<b>BP</b> - Blood pressure	<b>NIH</b> - National Institutes of Health
<b>CANSA</b> - Cardiac autonomic nervous system activity	<b>NWCR</b> - National Weight Control Registry
<b>CFM</b> - Central fat mass	<b>PAI-1</b> - Plasminogen activator inhibitor-1
<b>CHD</b> - Coronary heart disease	<b>PAL</b> - Physical activity level
<b>CRF</b> - Cardiorespiratory fitness	<b>PFM</b> - Peripheral fat mass
<b>CRH</b> - Corticotrophin-releasing hormone	<b>PG</b> - Prostaglandin
<b>CRP</b> - C-reactive protein	<b>PPAR-<math>\gamma</math></b> - Peroxisome proliferator-activated receptor-gamma
<b>CT</b> - Computed tomography	<b>RIA</b> - Radioimmunoassay
<b>CV</b> - Coefficient of variation	<b>ROI</b> - Region of interest
<b>CVD</b> - Cardiovascular diseases	<b>SAT</b> - Subcutaneous adipose tissue
<b>DM</b> - Diabetes mellitus	<b>SD</b> - Sagittal diameter
<b>DXA</b> - Dual x-ray absorptiometry	<b>SHBG</b> - Sex hormone-binding globulin
<b>ECG</b> - Electrocardiogram	<b>SNS</b> - Sympathetic nervous system
<b>ECLIA</b> - Electrochemiluminescence immunoassay	<b>STAT</b> - Signal transducers and activators of transcription
<b>EIA</b> - Enzyme immunoassay	<b>TAAT</b> - Total abdominal adipose tissue
<b>ELISA</b> - Enzyme-linked immunosorbent assay	<b>TBFM</b> - Total body fat mass
<b>FFA</b> - Free fatty acids	<b>TBLM</b> - Total body lean mass
<b>GGT</b> - Gamma glutamyl transferase	<b>TC</b> - Total cholesterol
<b>Hb A1c</b> - Hemoglobin A1c	<b>TFM</b> - Trunk fat mass
<b>HC</b> - Hip circumference	<b>TG</b> - Triglycerides
<b>HDL-C</b> - High-density lipoprotein cholesterol	<b>TGF</b> - Transforming growth factor- $\beta$
<b>HDM</b> - High-density muscle	<b>TM</b> - Transcendental meditation
<b>HOMA</b> - Homeostasis model assessment	<b>TNF-<math>\alpha</math></b> - Tumor necrosis factor- $\alpha$
<b>HPA</b> - Hypothalamic-pituitary-adrenal axis	<b>TSFAT</b> - Thigh subfascial adipose tissue
<b>HPLC</b> - High-pressure liquid chromatography	<b>TTAT</b> - Total thigh adipose tissue
<b>HR<sub>max</sub></b> - Maximal heart rate	<b>TTMT</b> - Total thigh muscle tissue
<b>HU</b> - Hounsfield units	<b>TTSAT</b> - Total thigh subcutaneous adipose tissue
<b>IDF</b> - International Diabetes Federation	<b>VAT</b> - Visceral adipose tissue
<b>IFG</b> - Impaired fasting glucose	<b>VLDL</b> - Very-low density lipoproteins
<b>IGF-1</b> - Insulin growth factor-1	<b>VO<sub>2max</sub></b> - Maximal oxygen uptake
<b>IGT</b> - Impaired glucose tolerance	<b>WC</b> - Waist circumference
<b>IL-6</b> - Interleukin-6	<b>WHO</b> - World Health Organization
	<b>WHR</b> - Waist-to-hip ratio



