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PhD Thesis Title: "Effect of Melekouni Consumption on Oxidative Stress, Markers of Muscle Damage, and Aerobic Performance in Semi-Professional Football Players"

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Abstract

Introduction: A dietary intervention with foods rich in antioxidants is a good strategy to improve athletic performance and reduce fatigue. Traditional "Melekouni Rodou" is a natural food with high nutritional value (sesame seeds, almonds, honey, citrus fruits). However, there is still no relevant scientific literature regarding its effects on health and exercise.

Aim: This study focuses on evaluating how consuming "Melekouni Rodou" affects oxidative stress, markers of muscle damage, and aerobic performance in semi-professional football players.

Methodology & Sample: This is a randomised controlled trial (RCT) with parallel groups that will take place in Rhodes. The sample consists of 40 male football players (20-25 years old), divided into two groups of 20 people. The experimental group will eat 60 g of "Melekouni Rodou" every day, while the control group will eat 62 g of sugar-free Digestive biscuits for 28 days. The study uses blinded assessors. Before and after the intervention, we will measure anthropometric characteristics, oxidative stress markers (TAC, MDA), muscle damage markers (CK, LDH), and aerobic performance (Yo-Yo IR Level 1).

Contribution: The expected results will help fill an important gap in the literature, since this is the first study to test the overall impact of a whole, traditional food (food matrix) under athletic strain. Furthermore, the study will provide new insights into whether a low-temperature production process protects bioactive ingredients from heat damage, bringing a solid experimental approach to the field of sports nutrition.

Keywords: football players, oxidative stress, muscle damage, aerobic performance, "Melekouni Rodou".