Cholesterol is a lipidic molecule that performs essential functions on human cells but its excess is directly associated with a higher risk for cardiovascular diseases. Previous works described the hypolipidemic effect of cinnamic acid esters extracted from the waxy powder of carnauba leaves upon dyslipidemic mice. Given this fact, the aim of this work was to analyze the effect of the treatment with these esters upon the hepatic transcription of seven lipid metabolism related genes on a group of dyslipidemic mice. Toward this, eighteen male Swiss mice were divided into three groups, two of which were subjected to dyslipidemia induction by intraperitoneal administration of Triton WR1339 (400 mg / kg of animal weight). Of the two dyslipidemic groups, only one received the experimental treatment (100 mg of cinnamic acid esters / kg of animal weight) by gavage. After two days all the groups were sacrificed and had their livers collected for RT-qPCR analysis of the genes: Abca1, Apoa1, Apoe, Cyp27a1, Hmgcr, Lcat and Nr1h3. The results demonstrated that the treatment with cinnamic acid esters significantly increased levels of mRNA for Apoe (29.2%), Lcat (44.0%) and Nr1h3 (51.5%) genes when compared to the untreated control. The results demonstrated a possible effect mediated by nuclear receptors but more studies are needed to understand the mechanisms by which cinnamic acid esters exerts its effects.