

# Coconut, Castor, and Argan Oil for Hair in Skin of Color Patients: A Systematic Review

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Coconut Oil  
is best!

## ABSTRACT

Coconut, castor, and argan oils are popular commercial hair oils culturally rooted in current and historical Indian and African heritages. Dermatologists treating hair and scalp conditions often face challenging patient questions of whether over-the-counter hair oils should be used. This is particularly challenging given the deeply rooted cultural practices of some skin of color patients. As a result, many dermatologists recommend patients to continue using hair oils not based on clinical efficacy but rather lack of foreseeable side effects. We analyzed the literature to investigate claims to substantiate whether these hair oils can improve hair growth, hair quality, and treat infestation clinically. Based on 22 articles that met inclusion criteria, coconut oil has been shown to treat both brittle hair and hair infestation clinically, with limited evidence regarding its impact on hair growth. There is weaker evidence for castor oil improving hair quality by increasing hair luster, and no strong evidence supporting its use for hair growth or treatment of infestation. Argan oil does not have any significant evidence supporting its use to improve hair growth, quality, or treatment of infestation.

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## INTRODUCTION

**H**air oils are popular over-the-counter products for skin of color patients and have also been rising in popularity amongst all patients, attributable to strategic marketing by non-dermatologist "authorities." Coconut, castor, and argan oil are utilized by millions of patients across the world and are the most commonly encountered supplemental hair products, followed by jojoba, avocado, and almond oils. When asked whether hair oils should be used, dermatologists often resort to allowing patients to continue expensive and time-consuming hair oil regimens based off the notion that it will do no harm, but also without expecting clinical benefits. This highlights the importance for dermatologists to have a better understanding of the clinical efficacy of over-the-counter products such as hair oils to enhance patient-physician trust.

Moreover, there is a lack of understanding of hair in patients of skin of color and few quality recommendations for them. Use of hair oils is rooted deeply culturally for thousands of years in skin of color patients, including those of Indian, Egyptian, and African descent. Coconut oil has been used in traditional Indian Ayurvedic medicine for over 4,000 years in a daily ritual of hair-oiling, thought to benefit hair and general health. Castor oil has been used in ancient Egypt as far back as 4000 BC to maintain natural hair growth and strength, and was allegedly used by Cleopatra herself.<sup>1</sup> Argan oil, also known as Moroccan oil<sup>2</sup>, dates back to 1550 BC and has been the presumed reason why

the Moroccan Berber people were known for their beautiful skin and hair.<sup>3</sup>

Two-thirds of the patients analyzed in this review are skin of color. Thus, understanding the hair biology across different ethnicities will provide a better understanding of how these hair oils have their clinical efficacy. Analogous to the skin barrier's stratum corneum lipid, the integral hair lipid is the barrier of the hair. The amount of total lipids varies for different ethnic hair types. African hair has the highest total lipids, which may be due to an increased density of external sebaceous glands, while Caucasian and Asian hair have similar total lipid amounts. Hair delipidization can occur after harsh procedures such as hair bleaching, as well as after shampooing, grooming, UV exposure over time, and general aging of the hair shaft.<sup>4</sup> Furthermore, in European, brown, untreated hair, a gradual decrease in lipids and fatty acid concentration has been seen in the hair shaft from scalp to tip. This correlates with decreased tensile strength along the length of the shaft.<sup>4</sup>

It is important for dermatologists to understand the clinical efficacy and side effects of these products to make culturally competent patient recommendations. Thus, this systematic review seeks to analyze the scientific literature regarding the effects of coconut, castor, and argan oils on hair in regard to three popular claims: 1) improved hair growth, 2) improved hair quality, and 3) treatment of hair infestation.