



Review Article

Herbal Hair Serum: Formulation, Development and Evaluation – A Comprehensive Review

Ashok Kamadi*, Utkarsha Lasure

RJS College of Pharmacy, Kokamthan, Kopargaon

Herbal hair serums have gained significant attention due to increasing consumer preference for natural, safe and sustainable cosmetic products. These formulations combine plant-derived oils, extracts and bioactive compounds to improve hair growth, reduce hair fall, enhance scalp health and protect hair from environmental damage. This review summarizes the anatomy of hair, hair growth cycle, causes of hair disorders, herbal cosmetic science, formulation approaches, natural ingredients such as Aloe vera, coconut oil, almond oil, castor oil, vitamin E, glycerine, rose water and orange oil, evaluation parameters, stability studies, recent advances and future prospects. Herbal hair serums have gained significant attention due to increasing consumer preference for natural, safe and sustainable cosmetic products. These formulations combine plant-derived oils, extracts and bioactive compounds to improve hair growth, reduce hair fall, enhance scalp health and protect hair from environmental damage. This review summarizes the anatomy of hair, hair growth cycle, causes of hair disorders, herbal cosmetic science, formulation approaches, natural ingredients such as Aloe vera, coconut oil, almond oil, castor oil, vitamin E, glycerine, rose water and orange oil, evaluation parameters, stability studies, recent advances and future prospects. Herbal hair serums have gained significant attention due to increasing consumer preference for natural, safe and sustainable cosmetic products. These formulations combine plant-derived oils, extracts and bioactive compounds to improve hair growth, reduce hair fall, enhance scalp health and protect hair from environmental damage. This review summarizes the anatomy of hair, hair growth cycle, causes of hair disorders, herbal cosmetic science, formulation approaches, natural ingredients such as Aloe vera, coconut oil, almond oil, castor oil, vitamin E, glycerine, rose water and orange oil, evaluation parameters, stability studies, recent advances and future prospects. Herbal hair serums have gained significant attention due to increasing consumer preference for natural, safe and sustainable cosmetic products. These formulations combine plant-derived oils, extracts and bioactive compounds to improve hair growth, reduce hair fall, enhance scalp health and protect hair from environmental damage. This review summarizes the anatomy of hair, hair growth cycle, causes of hair disorders, herbal cosmetic science, formulation approaches, natural ingredients such as Aloe vera, coconut oil, almond oil, castor oil, vitamin E, glycerine, rose water and orange oil, evaluation parameters, stability studies, recent advances and future prospects.

Keywords: Herbal Hair Serum; Herbal Cosmetics; Hair Growth; Aloe vera; Coconut Oil; Castor Oil; Vitamin E; Hair Follicle; Scalp Health; Stability Studies.

INTRODUCTION

Herbal formulations are widely investigated because of their moisturizing, antioxidant, anti-inflammatory, conditioning and protective properties. Proper selection of ingredients, optimization of oil-water balance, preservation, physicochemical evaluation, viscosity, pH, spreadability, stability and microbiological quality are essential for developing

an effective herbal hair serum. Recent studies indicate that combinations of Aloe vera, coconut oil, almond oil, castor oil and vitamin E improve hair conditioning and scalp hydration while reducing dryness and breakage. Herbal formulations are widely investigated because of their moisturizing, antioxidant, anti-inflammatory, conditioning and

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4. Common Hair Disorders

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19. Evaluation Parameters

Herbal formulations are widely investigated because of their moisturizing, antioxidant, anti-inflammatory, conditioning and protective properties. Proper selection of ingredients, optimization of oil-water balance, preservation, physicochemical evaluation, viscosity, pH, spreadability, stability and microbiological quality are essential for developing an effective herbal hair serum. Recent studies indicate that combinations of Aloe vera, coconut oil, almond oil, castor oil and vitamin E improve hair conditioning and scalp hydration while reducing dryness and breakage. Herbal formulations are widely investigated because of their moisturizing, antioxidant, anti-inflammatory, conditioning and protective properties. Proper selection of ingredients, optimization of oil-water balance, preservation, physicochemical evaluation, viscosity, pH, spreadability, stability and microbiological quality are essential for developing an effective herbal hair serum. Recent studies indicate that combinations of Aloe vera, coconut oil, almond oil, castor oil and vitamin E improve hair conditioning and scalp hydration while reducing dryness and breakage.

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