

HAIR CARE AND HAIR COSMETICS

Thesis

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Master Degree of
Dermatology and Venereology

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

... قال رب اشرح لي صدري
ويسر لي امري واحلل عقدة
من لساني يفقهوا قولي ...

'صدق الله العظيم'

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CONTENTS

	Page
I. Introduction and aim of the work	1
II. Review of Literature	
The normal hair:	3
Hair distribution and types	3
Hair structure	4
Hair colour	6
Hair chemistry	7
Hair growth cycle and factors affecting its growth	9
Shampoos	14
The action of shampoos	14
Evaluation of shampoos	16
Shampoo ingredients	19
Surfactants:	19
Anionic surfactants	19
Amphoteric detergents	22
Non-ionic detergents	23
Foam boosters	23
Conditioning agents	24
Sequestering agents	25
Opacifiers or thickeners	25
Preservatives	25
Fragrance	26
Chemical composition of shampoos	26
Dry powder shampoos	26
Liquid dry shampoos	27
Clear liquid shampoos	27
Liquid cream or lotion shampoos	27
Shampoo pastes or creams	28
Aerosol shampoos	28
Oil shampoos	28

Types of shampoos as commercially used	29
Basic shampoos	29
Normal hair shampoos	29
Oily hair shampoos	29
Dry hair shampoos	30
Damaged hair shampoos	30
Baby shampoos	31
Conditioning shampoos	31
Medicated shampoos	31
Hair conditioners	34
The action of the conditioner	35
Hair conditioning agents	35
Cationic detergents	36
Film forming conditioners	37
Protein based conditioners	38
Oily materials	40
Hair conditioners types	41
Instant conditioners	41
Deep conditioners	41
Fillers	42
Blow drying lotions and hair thickeners	42
Hair rinses	43
Permanent hair waving	44
Heat permanent waving	44
Cold permanent waving	45
The process of permanent hair waving	47
Waving lotions composition	48
Neutralizers composition	49
Types of permanent waving lotions	49
Alkaline permanent waving lotions	49
Acid permanent waving lotions	50
Sulfite permanent waving lotions	53
Waving of bleached hair	53

Hair permanent straightening or relaxing	55
Heat straightening	55
Chemical straightening	57
Hair colourants	59
Hair bleaching or lightening	60
Temporary hair colouring	64
Gradual hair colouring	66
Natural hair colouring	67
Semipermanent hair colouring	69
Permanent hair colouring	70
Hair styling cosmetics and devices	77
Styling aids	77
Hair styling lotions and hair sprays	77
Hair styling gels	81
Hair styling mousses	82
Thermal hair styling devices	82
Non thermal hair styling devices	83
Hair photodegradation and hair sunscreens	85
Adverse effects of sun exposure	85
Hair sunscreens types	86
Hair growth restoration	88
Hair lotions and tonics	88
Hair addition	95
Hair transplantation and bald scalp reduction	97
Artificial hair or wigs	99
III. Summary	100
IV. References	105
V. Arabic Summary	---

INTRODUCTION AND AIM OF THE WORK

INTRODUCTION

Cosmetics have been used since biblical times. In Egypt, Cleopatra was renowned for her use of cosmetics. This word "cosmetics" is derived from the Greek "Kosmetikos", meaning skilled in decorating. Today cosmetics are used for cleansing, for adornment, to enhance attractiveness and to cover blemishes⁽¹⁾.

Men and women have been concerned about their hair throughout history. Hair has always had great social significance. Hair offers protection to the body, helps one look attractive and plays a big part in supporting the billion - dollar cosmetic industry. The study of hair is called trichology⁽²⁾.

In today's world, physical appearance and the idea of "looking young and vibrant" plays a great role than ever. Women and men have always been concerned about their hair and sought to modify it by grooming, colouring, cutting and wigs. Women have continued this concern about modifying their appearance by cosmetic preparations and nowhere is this concern more strongly manifested in connection with the hair; which reflects its psychological and sexual importance⁽³⁾.

Hair has a very practical purpose. In the nose and ears, it keeps foreign bodies from invading the person. Under the arms and in the pubic area, it protects the body from friction. The hair on the head cushions us from blows and keep our head warm in winter and cool in summer. The eyebrows keep sweat from running into our eyes, and eyelashes shade the eyes and help to keep dust out⁽²⁾.

Nowadays, patients frequently present to dermatologists with hair problems, some of which are medical while others are strictly cosmetic in nature⁽⁴⁾. Because of that the dermatologist should be able to give patients sound advice on cosmetics that are safe and effective, and should be knowledgeable to advise them on what cosmetics they can use. For example; people who are predisposed to contact dermatitis or who have sensitive skin can be better managed by the dermatologist who has a working knowledge of cosmetics⁽⁵⁾.

The thesis aimed at providing detailed information about hair care and hair cosmetics products regarding their chemistry, uses, and adverse effects.

REVIEW OF LITERATURE

THE NORMAL HAIR

THE NORMAL HAIR

a. Hair distribution and types:

Apart from the palms, soles, glans penis, mucocutaneous junction and dorsa of terminal phalanges of digits, almost all the skin has follicles from which hair could grow⁽⁶⁾.

Hair is a modified epithelial structure formed as a result of the keratinization of germinative cells⁽⁷⁾.

Over much of the body are tiny hairs which grow very slowly but continuously. As one gets older the body will gradually become more hairy. These continuous slow growing hairs are vellus hair which replaces lanugo hair in post natal life⁽⁶⁾. It is soft, unmedullated rarely exceeds 2 cm. in length and occasionally pigmented⁽⁸⁾.

On certain parts, hair grow more rapidly but for a shorter, more definite period of time, and then fall out, to be replaced by new ones. These are terminal hair. Scalp hair is found from infancy. Axillary, pubic, beard and chest hair appear at puberty⁽⁶⁾.

The total number of follicles in an adult man has been estimated at about 5 million, of which about 1 million are in the head and perhaps 100,000 in the scalp⁽⁹⁾.

b. Hair structure

There are two main divisions of the hair, one above the surface of the skin which is called the hair shaft, and one below the skin surface which is called the hair root⁽²⁾.

The lower portion of the hair follicle is composed of four major parts: the dermal hair papilla, the hair matrix, the inner root sheath and the outer root sheath⁽¹⁰⁾.

A hair follicle is formed as a result of a down growth from the epidermis into the dermis or subcutaneous tissue. At the depth of the down growth a cluster of cells known as the germinal matrix forms over a papilla of connective tissue. The part of the epidermis which has grown downwards becomes canalized between the germinal matrix and the surface and forms the external root sheath. Growth of hair is the result of continuous proliferation of epidermal cells of the matrix. The matrix cells form a sheath of tissue known as the internal root sheath⁽⁷⁾.

The hair shaft: the outer layer or covering of hair shaft is called the cuticle. The cuticle consists of an overlapping laminar cells that form an outer cystine-rich layer known as the exocuticle and an inner layer of cellular debris known as the endocuticle⁽⁴⁾. The cells of this layer are arranged in an overlapping manner resembling the scales of a fish which is called imbrication⁽²⁾. These scales overlap in a proximal - to distal direction along the hair shaft and function to protect the inner hair layers⁽⁴⁾. In addition, this layer is colourless and allows the natural colour from the cortex to be visualized. The cuticle resist trauma. As long as it is intact, the hair shaft will not break⁽¹¹⁾.

Recently, a more complex architecture of the native hair surface is described by using a scanning electron microscope. It is suggested that from such a detailed observational baseline one can then judge the effects of given treatments upon hair surface architecture⁽¹²⁾.

The cortex: It is the layer of the hair beneath the cuticle, which consists of elongated cells containing tonofilaments and interfilamentous matrix material which is rich in cystine⁽⁴⁾. Within the cells, most of the microfibrils are closely packed and oriented longitudinally in lamellae, though some remain in loose