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TREATMENT OF ECZEMA AND ONYCHOMYCOSIS BY DAILY PRODUCTS: "OPENING THE OLD BOOKS"

"It is impossible for someone to know medicine,
if he does not know exactly what man is"

Hippocrates

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Egzama ve Onychomycosis bütünsel seçenek için krem formülleri

Özet

Aromaterapinin olumlu etkileri gerçek. İnsan fiziksel ve zihinsel iyileşmesinin birçok bozukluğunu rahatlatmak ve tedavi etmek için giderek daha fazla kullanılır. Terapötik özellikler, endikasyonlar ve kontrendikasyonların yanı sıra aromaterapi kullanımının doğru yolu üniversite organları tarafından araştırılmakta ve üniversite hastanelerinde uygulamalar giderek artmaktadır.

Sözün etimolojisinden (aroma terapisi), aromaterapinin, köklerde, yaprak saplarında, kabuklarda, yapraklarda ve yapraklarda bulunan oleajinöz bezlerin salgıladığı parfümleri (esansiyel yağlar) kullanan terapötikler olduğunu anlamak kolaydır ; çeşitli aromatik bitkile.

Antik çağlardan beri, Hipokratların zamanından beri, esansiyel yağların hem iyileştirme hem de süsleme amaçlı olarak günlük yaşamda yaygın olarak kullanıldığı bilinmektedir.

Böylece, aromaterapinin, insanlara uyguladığı sağlık ile dinginlik sağlama, refahı sağlama ve günlük ruh halimizi geliştirmeyle doğru uçucu yağ bulma bilimi olduğunu söyleyebiliriz.

Belki modern tıbbın geleceği geçmişte saklanıyor.

Belki de devam etmek istiyorsak, önce nerede olduğumuzu ve zaten bildiğimizi bilmeliyiz.

Belki de sonunda, özel olarak hastalığa çalışma girişimlerimizde insanı bütünsel olarak incelemeyi unuttuk.

Anahtar Kelimeler: Egzama , Onychomycosis eczacı

TREATMENT OF ECZEMA AND ONYCHOMYCOSIS BY DAILY PRODUCTS: "OPENING THE OLD BOOKS"

Abstract

The positive effects of aromatherapy are real. It is increasingly used to relieve and treat many disorders of human physical and mental heal. Therapeutic properties, indications and contraindications as well as the correct way of using aromatherapy are being explored by university bodies, and applications are already growing in university hospitals. From the etymology of the word (aroma-therapy), it is easy to understand that aromatherapy is the therapeutics, which uses perfumes (essential oils) secreted by the oleaginous glands, found in the roots, petioles, bark, leaves and the flowers of various aromatic plants.

Since ancient times, since the time of Hippocrates, it has been known that essential oils have been widely applied in everyday life, both for healing and ornamentation purposes. There was, therefore, a great spread of the use of essential oils

Thus, we can say that aromatherapy is the ancient science of finding the right essential oil, which by its application to humans improves health, ensures calmness, well-being and improves our daily mood.

Maybe the future of modern medicine is hiding in the past.

Maybe if we want to go ahead we must first know where we are, and what already know.

Maybe in the end, in our attempt to specially study illness we forgot to study the human holistically.

Keywords Eczema , Onychomycosis , pharmacist

1. INTRODUCTION

Increasingly the modern people want to use natural products for themselves and their family, products which made from pure and natural materials, from plants and herbs such as olive oil, lavender, calendula, beeswax, propolis, floral water that are free from parabens and

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chemicals. The profession of the current pharmacist requires knowledge of Cosmetology as well.

In our days more often, people are developing allergies and skin diseases to conventional- commercial pharmaceutical creams in the period of their life. The pharmaceutical companies, increasingly common, use in their merchandises synthetic emollients, humectants, emulsifiers, surfactants and preservatives to increase the production costs and to reduce the products' life without take in account the impact that may have on human potential.

More and more modern scientists are turning to natural therapies and treatments. The scientific foundations of the action of essential oils in human health and the mechanisms of influencing various disorders are under constant investigation. The applications of aromatherapy are many. They include the treatment of anxiety, insomnia. Aromatherapy helps memory, relaxation and concentration makes "miracles" in skin diseases. It is perhaps an imperative need, the modern scholars to reopen their old books and study man as a system from the beginning.

In recent years, particular emphasis has been placed on whether the products we consume are of organic or of plant origin.

Many companies claim that they only use organic or plant ingredients, but that is not entirely true. In accordance with the regulations it is necessary for a cosmetic product the PSA (product safety assessment) and must be written on the label all the ingredients according to INCI (International Nomenclature of Cosmetic Ingredients) and the CI (Colors Index) as well as the 26 allergens substances (e.g. Geraniol, Linalool, Citral, Limonene) if there are in the composition of the product. However the cosmetics industry is covered by the law since it is not required to detail the products below of 1% w/w,(but they accumulate in the body for a long time and act cumulatively, resulting in various health problems from time to time). (1),(2),(3).

The ingredients in organic and herbal cosmetics are divided into 3 categories:

- ingredients of plant origin which are not subject to any treatment
- chemically processed ingredients
- ingredients identical to natural ingredients which are produced in the laboratories e.g. dyestuffs, minerals and preservatives (the raw materials must not have heavy metals, parasiticides, dioxins, hydrocarbons, GMO= genetically modified organisms, nitrate salts and should be produced by simply processes

In relation to the quality and the percentage of raw materials we can separate the cosmetic in 3 basic axes:

- natural cosmetics that contain natural components and a small quantity of synthetic ingredients which emanate from natural components.
- natural cosmetics with organic elements that contain at least 70% natural ingredients from organic crops and a smaller quantity of synthetic or natural components
- organic cosmetics which contain at least 95% natural ingredients from organic crops and the smallest quantity of synthetic or natural components

Some basic standards that organic and herbal cosmetics have to meet are:

- do not contain synthetic preservatives, emulsifiers and

- do not contain synthetic fragrances and dyes
- do not contain ingredients based on petroleum.

It is forbidden to contain both of them:

- Parabens, SLS, Formaldehyde, Propyleneglycol
- Phthalates, Dibutylphthalate, Diethylphthalate, Dimethylphthalate
- GMO, BHT, ALS, ALES, Silicones, Petrochemicals.

To certify an organic cosmetic requires an endpoint testing of every manufacture process and the final certification gives non-governmental organizations (NGOs) like ***Natrue or Eco-cert Greenlife.***

In our creams we will use:

-natural emolients: natural cold pressing carrier oils e.g. Jojoba oil, Avocado oil, natural butters e.g. Shea butter, Cocoa butter.

* we will not use synthetic emolients like PEG (ethoxylated producers) or alcohols

-natural humectants: Lecithin, Panthenol or Glycerine

* we will not use synthetics like propylene glycol or ethylene glycol

-natural emulsifiers: natural waxes e.g. Beeswax

* we will not synthetics like Silicones, Amides, Ethoxylated derivatives

-natural surfactants: Wheat proteins, coconut oil derivatives

* we will not use synthetics e.g. Sodium Lauryl Sulfate (SLS) or Quarternium

-natural preservatives: high quality essential oils e.g Geranium, Tea tree, vitamine E

* we will not synthetics like Parabens, DMDM Hydantoin, Imidiazolidinyl Urea,

Salicylic acid, Bronopol.(3),(4),(5).

Eczema or atopic dermatitis is a chronic inflammatory dermatopathy with outbreaks and remissions, and basic characteristics, itching, drynes, erythema and discoloration of the skin.

Eczema is due to irritation of the skin in its outer layers from allergens and is usually manifested at the face, hands, and in the joints of elbows and knees.

The real cause of eczema has not been fully identified, that's why there is not an accurate treatment. It is a hypersensitive state in which the skin appears redness, blisters, flaking and may be "open" and hurt. If the skin is broken, the epidermis is vulnerable to microbes and infections.

80% of the eczema sufferers have a higher than normal, amount of antibodies in their human body. This means that their skin responds differently to some materials.

When we are talking about eczema, we are looking for external risks such as hard soaps, detergents, fabric softeners, etc. and of course the usual suspects, the known allergens like dust, pollen, pet hair and some foods (foods can not cause eczema but allergies) such as gluten, fish, chocolate, eggs , milk, peanuts and citrus trees that can exacerbate the symptoms of eczema. A balanced and healthy diet is the best advice.

- The health of the digestive system can have an impact on eczema sufferers because it supports the immune system. Prefer to eat yogurt, kefir, probiotics instead of milk and eggs.

- The main risk factor for the eczema manifestation is the inflammation in the organism. Prefer complex carbohydrates, whole grain products and vegetables that decrease the insulin in the blood.

-The balance of metals, vitamins and flavonoids in our daily-diet can help the skin health. Consume Zn, K, Mg, vitamin C, Ω3 (linolenic acid).

Bananas: rich in K, Mg, vitamin C and histamin that helps in allergies.

Chicken and beef broth: have glycine, an amino acid that repairs the skin.

Potatoes: rich in vegetable fibers, K, vitamin C, alkalis.

It is not an infectious or contagious disease , and it is believed that is a hereditary disease that caused from allergens. Eczema is more common in kids (At least 15 to 20% of children experience atopic dermatitis sometime during childhood, usually from the first year of life. Frequency over the last few years has been increasing in the population. Of all children with atopic dermatitis, 65% show signs in the first year of life and 90% during the first 5 years of their life. Half of the children with the disease improve between the ages of 5 and 15 years. Parents with atopic dermatitis are more likely to have children with atopic dermatitis), but all population groups can be affected. Unfortunately so far there is no cure for eczema. But we can strengthen the skin's defense, to maintain the right moisture in the skin, and with creams or lotions to fight the itching and the inflammation.

Eczema and Psoriasis

Both of them are skin diseases without cure , that we deal with symptomatic treatment. They may seem to have many similarities, however they are two different situations , which cause major problems for people on functional and psychosocial level.

As we have previously mentioned, eczema is manifested with dry and traumatic epidermis that opens and hurts. The patient suffers from intense pruritus and they feel so urgently the need to scratching who get to the point of bleeding their skin. Usually appears behind the knees, the elbows, the neck, the wrists and the ankles.

Psoriasis is an autoimmune disease more complex than eczema and the heredity plays a big role. In the list of causes we can add the stress, infections, injuries and sunburns. Psoriasis starts with little red spots on the skin which are converted into red blots with plaques in white or grayish color. Psoriasis also causes itching but the sufferers feel that their skin tingles. In psoriasis we can use the phototherapy method.

Precautions

- take care the detergents we use to wash our clothes
- do not use bleach or chemical detergents
- take care the soaps, shampoos and foam baths that we use to clean our body
- wear delicate cotton fabrics
- wipe and dry our skin well after the shower and the bath
- keep the skin properly hydrated
- do not use lotions, creams, cleaning products and fragrances with chemical additives

- avoid activities that cause sweating and intensify eczema.(6),(7),(8)

Onychomycosis or athlete's foot is a fungal infection affecting the skin between the toes and it is a form of ringworm. It is a common problem for men and women which is typically due to moisture trapped in a warm environment such as in the interior of shoes and is more common in the feet than the hands.

The fungi grow more easily in the liquid, warm and dark environment, for this reason the feet should remain dry and the shoes should be ventilated the shoes are ventilated systematically.

Initially the fungus appears as a small white or yellow patch at the edge of the nail and as it spreads the nail may be more thick, brittle and can change shape or become dark. Other symptoms are inflammation, swelling and pain.

Some of the causes of nail mycosis are the synthetic socks, the unnatural levels of ph at the skin, sub functional immune system, continuous exposure to moisture, sweat, poor hygiene and diabetes.

The fungus does not pull out by itself and if onychomycosis does not cure immediately and correctly can cause broken or complete loss of nail.

Something to take care and keep in mind is that onychomycosis maybe connects with intestinal parasites which cause the mycosis from the beginning. Parasites love sugar. So the best to starve the pests is to apply a healthy fasting and cleansing strategies, while at the same time eliminating sugar and cereals as much as possible from your diet. Many herbs and foods show strong antiparasitic activity. Extra virgin coconut oil is packed with medium chain triglycerides that enhance the immune system in the fight against pathogens. Raw garlic and raw onions provide sulfur, containing amino acids, which are antiparasitic. Dried oregano and especially its essential oil are extremely volatile and antiparasitic. Ginger, artemisia and black walnut are often used in anti-parasitic strategies.

The good news are that the onychomycosis can be healed completely in one or two months.

Precautions

- daily and frequent wash of the feet
- do often a therapeutic foot- bath
- it is very important to dry your feet very well after washing
- do not leave long nails and do not cut them deeply
- change often socks and clean your shoes very well inside and outside especially your sneakers. In the summer season prefer to wear open shoes, so that the foot does not sweat and the temperature does not increase inside the shoes
- do not walk barefoot, and in public spaces like gyms and swimming pools always wear sport slippers.
- do not use common tools for manicure and pedicure and common towels.

Our aim is to create an organic cream for **eczema** and an organic cream for **onychomycosis** using materials which are friendly to human with therapeutical substances without side effects and friendly to the environment. Our products contain organic ingredients like cold pressing carrier oils and high quality essential oils with aromatic properties, that moisturize

naturally the epidermis and they are suitable to a sensitive skin. In our products we will not use at all poisonous components for human, animals and plants. In our products we will not use as well toxics, chemical and carcinogenic substances e.g. parabens, triclosan sodium lauryl sulfate and we will not test on animals. Our target is to create organic and natural products for " **the pharmacy of the future**". (6),(7),(8).

2. MATERIAL AND METHOD

Carrier oils are rich in pure, nutritious ingredients and ideal for the health of the skin, providing the necessary food and hydration. They are used directly on the facial or body skin and hair, moisturizing and nourishing in depth. **Essential oils** are the natural extract of aromatic plants derived exclusively from their volatile molecules. They come from different parts of plants (fruits, flowers, leaves, resin, root, seeds, etc.) and from different countries around the world. Not all plants are produced of essential oils that can be used in aromatherapy. An essential oil is essentially the **soul and the heart** of the plant, its vital energy.(9),(10),(11).

CARRIER OILS that we used in our formulas

Borago officinalis (INCI) Family: Boraginaceae

Constituents : Borage oil contains a large amount of g-linoleic acid (GLA) and superior quality, Omega-3, and essential fatty acids (EFA), which the human body cannot compose by itself. Its content in GLA is (16-27)% , in nature there is no other plant with this high content. It has GLA much more than Evening primrose oil. 1 gr Borage oil contains 5 gr EPO (in terms of content GLA). It contains also a large amount of natural salicylics, Vitamin C, tannins, saponins, minerals, a high amount of mucilage (which is very emollient and soothing therefore reduces reddening of sensitive skin) and pyrrolizidine alkaloids (take care: the formula of the oil that we will buy must be written PA-Free=Pyrrrolizidine alkaloids free. That is why, they are natural toxins that the plant uses for its protection, from insects and natural enemies, and they are metabolized in the liver and create hepatotoxic compounds).

Uses: In eczema, psoriasis (reforms affected skin areas), skin diseases since it has moisturizing and regenerative properties. For the skin-dryness, alopecia, dandruff, hair and brittle nails.

Calendula officinalis (INCI) Family: Compositae

Constituents: Calendula oil contains saponins, carotenes, terpenes, pectins (important humectants) and flavonoids (they have astringent, anti-inflammatory, cooling and tonic action for the skin). It contains also vitamins A, C, E, B1, B2, B6, Calcium, Silicon (has a protective mucus important for healing skin problems) and Xanthophyllus (volatile substance).

Uses: Ideal for eczema, for itch, varicose veins, bruises and stretch marks. Against wrinkles and for face cleaning.

Hypericum perforatum (INCI) Family: Hypericaceae

Constituents: St. John's wort oil contains proteins, trace elements and vitamins A, D, B1, B2, B6. It contains a glycoside, hypericin, which is a red dye, and hyperocidin.

Uses: It is a balsam and we can use it everywhere. It is vulnerary, astringent, antiseptic, haemostatic and muscle relaxant. In all skin diseases, acne, herpes, cold sores, burns, itch, headaches, backaches, sciatica, bruises and neuralgia.

Nigella Arvensis (INCI) Family: Ranunculaceae

Constituents: Black cumin oil is plenty of B complex vitamin, plenty in fatty acids and in metals Fe, Zn, Ca, P, Cu. It is a wonderful oil that heals everything, with antibacterial and moisturizing properties.

Uses: Ideal for eczema, acne, skin allergies, burns and wounds. Appropriate for all skin types, for brittle nails, hairs and wrinkles.

Ricinus communis (INCI) Family: *Euphorbiaceae*

Constituents: Castor oil is a thick oil that penetrates in the deepest layers of the epidermis, plenty in vitamin E, Omega-9 with anti-inflammatory and antibacterial action. It contains the fatty acid resinic that has a strong attraction to keratin. First-class moisturizer for trapping moisture.

Uses: For the beauty and health care of hair, eyebrows and nails. For skin dryness, skin diseases, lichens, pimples and abscesses.

Cocos nucifera L (INCI) Family: *Arecaceae*

Constituents: Coconut oil contains polyphenols (important antioxidant and antibacterials elements), vitamins A, B, E trace elements, metals Mg, Fe, Ca, P, natural carotens and glycerine. It has lauric acid that helps for eczema and psoriasis, phytosterols(which regenerate the skin). It has natural SPF and it is the richest source in nature in MTC acids, and helps in the natural restoration of pH of the epidermis. It is the closest oil to the human subcutaneous tissue. In our formulas we do not use the "coprah" coconut oil but the pure, unrefined one.

Uses: In all skin diseases, solidifies and curdles the cosmetic creams. Appropriate for hair, body massage and sun protection cream. For detoxification of the skin and protection from free radicals.

Symphytum officinale (INCI) Family: *Boraginaceae*

Constituents: Comfrey oil contains allantoin(cell multiplier that helps repair damaged tissue) triterpenoid, tannins, phenolic acids (rosmarinic acid that has anti-inflammatory action).

Uses: Emollient, astringent, anti-inflammatory, ideal to heal sores and bones. For eczema, psoriasis, acne and scars.

Azadirachta indica (INCI) or Family: *Meliaceae*

Melia azadirachta (INCI)

Constituents: Neem oil contains flavonoids, tannins, triterpenoid(bitter substances), steroids and triglycerides which rebuild the collagen of epidermis. The basic constituent of this oil is a triterpenoid called azadirachtin (Azadirachtin is the natural insecticide with low environmental pollution, does not harm humans).It is very rich in fatty acids and vitamin E,and has antibacterial, antiparasitic, antiseptic, antifungal properties. It has a particular characteristic intense odor(combination of garlic with sulfur).

Uses: Suitable for protecting humans, plants and animals from parasites. Removes lice, mites and insects that cause problems in plant leaves. Also, Neem oil is extremely effective in various skin conditions such as eczema, psoriasis, pustules, etc. Thanks to its anti-inflammatory action, it is used as a soothing agent for the skin and for diseases such as arthritis and muscle aches.

Carbenia benedicta (INCI) or Family: *Cpmpositae*

Cnicus benedictus (INCI)

Constituents: Holy Thistle oil contains lignans, lactones, flavonoids, phytosterols and tannins. It has anti-inflammatory and soothing properties

Uses: Perfect for healing wounds, cold sores, onychomycosis, skin diseases, chapped lips and ear chilblains.

Achillea millefolium (INCI) Family: Compositae

Constituents: Achillea oil is plenty of vitamins, trace elements, tannins, coumarins and flavonoids. It also contains natural salicylic acid, camphor and chamazulene (anti-allergic, anti-bacterial and anti-inflammatory properties).

Uses: Psoriasis, eczema and for all skin diseases. One of the most vulnerable oil, for pigment spots, scars and we can use it for all type skins. (1),(2),(3),(4),(5),(9),(10).

ESSENTIAL OILS that we used in our formulas

Melaleuca alternifolia (INCI) Family: Myrtaceae

Tea tree essential oil has intense antiseptic properties and is widely used due to its action against contamination. We can use it in oily skin, acne, burns, dandruff, sores, onychomycosis, insect stings. We can use it directly to the skin without dilution and only for external use because it is very toxic.

Chamomilla recutita (INCI) Family: Compositae

German (Blue) chamomile essential oil has antiseptic, anti-inflammatory, anti-allergic properties and is soothing for skin diseases. We use it for eczema, acne, all the skin allergies, dermatitis, blisters, bruises.

Lavandula officinalis (INCI) Family: Labiatae

Lavender essential oil has the most uses from all the essential oils. For acne, eczema, psoriasis, dermatitis, muscle aches, rheumatism, sprains, stress, seasickness.

Juniperus communis (INCI) Family: Cupressaceae

Juniper essential oil has excellent antiseptic and astringent properties for skin diseases like eczema ("liquid" eczema), acne. It heals and cleans the sores, treats the skin and hairs. For gout and hemorrhoids.

Citrus bergamia (INCI) Family: Rutaceae

Bergamot essential oil is ideal in the cases of bronchitis, skin diseases, herpes, fungal infections.

Cinnamomum camphora (INCI) Family: Lauraceae

Camphor essential oil is a strong antiseptic for bronchitis, cough and colds. For acne, onychomycosis, fungal infections. It has anti-inflammatory action for sores, rheumatism, sprains. (1),(2),(3),(4),(5),(9),(10).

OTHER MATERIALS that we used for our formulas

Cera flava (INCI)

Constituents: **Beeswax** is a 100% natural product. It is a yellowish complex mixture of **waxy oily fatty acids, alcohols, and free fatty acids long chain hydrocarbon compounds**. It also contains **trace elements, metals and vitamins**. It is a lipid. We use the **cera flava** not the **cera alba** one. The **cera flava Crude Beeswax** is a natural wax produced by bees by Apis mellifera.

fera (European Bee), smells like honey and contains all the benefit properties of beeswax. The melting point is (63-64) 0C.

Uses: It has three characteristic properties: 1. It regulates the cream composition. It thickens, hardens and softens its texture. 2. Creates a protective film on the skin and help in hydration. 3. Facilitates emulsification (but it is not a n emulsifier)(11). We can make with it balms, beeswax-creams, sticks, lipsticks, mascaras, eyeliners, cosmetic creams, emulsions and scented candles.(1),(2).

Videllaria paradoxa(INCI)

Constituents: **Shea butter** comes from the vegetable fat of the fruit from the african tree Shea. The crude one has a pale-beige or ivory color and **not** White. It is plenty of **vitamins A, D, E, F.** It has a high level of **cinnamic acid** (C6H5CHCHCO2H) which is a natural sunscreen. It has high content of **unsaponifiable fats** (7-12)% and this property makes the shea butter very important for skin treatment and care, because does not block the pores. it is easily absorbed and does not leave greasy.

Uses: Daily hydration for the skin, burns, scars, skin diseases, sores, eczema, hairs for dry skin, sun protection, wrinkles, for after shave and we can use as basis for most cosmetics companies.(1),(2)

Tocopherol

Vitamin E is a fat-soluble, antioxidant vitamin very important for human body, that protects the membranes and other important cellular structures of polyunsaturated fatty acids from free radicals and oxidation products. We use it in cosmetic creams to protect naturally our products from the oxidation of carrier oils, and we have as result to increase the lifetime of our product.(3),(4).

3. RESULTS

Table 1: Formula for **Eczema**

Carrier oils	Borage St. John's wort Black Cumin Coconut Neem
Essential oils	Lavender German Chamomile Juniper
Others	Beeswax Shea butter vitamin E

Procedure: In a porcelain or glass beaker, but not metal one, we heat in " bain marie" the beeswax with shea butter until liquidate (maximum 630C) and then slowly add all the others carrier oils. We mix all them together until be an oily solution pure without granules. Then we take it out of bain marie appliance, wait a little until the temperature of our solution goes

around 40 0C and then we add our essential oils and vitamin E. Finally we put it in a small dark-color sterile jar and we do not cover until cools down and stabilized. Our cream now is ready for use. We store it in a dry and dark place and its life time is for 6-8 months. We can use topical 3 times a day.

Tips: for greater efficacy in treatment of eczema we can also use caps of Evening primrose oil, pulctice with Kaolin clay and take bath with oat(Avena sativa).

Table 2: Formula for **onychomycosis (athlete's foot)**

Carrier oils	Calendula Achillea Holy thistle Castor Comfrey
Essential oils	Tea tree Bergamot Camphor
Others	Beeswax vitamin E

Procedure: In a porcelain or glass beaker, but not metal one, we heat in " bain marie" the beeswax until liquidate (maximum 630C) and then slowly add all the others carrier oils. We mix all them together until be an oily solution pure without granules. Then we take it out of bain marie appliance, wait a little until the temperature of our solution goes around 40 0C and then we add our essential oils and vitamin E. Finally we put it in a small dark-color sterile jar and we do not cover until cools down and stabilized. Our cream now is ready for use. We store it in a dry and dark place and its life time is for 6-8 months. We can use topical 3 times a day.

Tips: for greater efficacy in treatment of onychomycosis we can also use for maximum 10 days caps of Oregon essential oil and take foot bath with Epsom salts. 10 minutes before use this cream we can put direct on the nail drops of Tea tree ess.oil, and make little massage to absorbed.

NOTE: a) *By adding different essential oils we achieve **synergy**, thus the activities of two or three components are strengthened and the overall effect is stronger than the sum of the two or three isolated components.*

b) *We used **herbal infused oils** (Calendula oil, St. John's wort oil and Achillea oil), that we made by ourselves with the cold-infuse method in extra- pure , high quality olive oil.*

4. DISCUSSION

"Doctor deals with the diseases, but Nature heals" Hippocrates.

On this issue we will follow **a healing natural path** with the help of Herbal therapy and Aromatherapy. We will therefore follow alternative therapeutic methods, known for more than 5000 years, in our attempt to make natural creams for **eczema** and **onychomycosis** two skin maladies that plague the synchronous man. The modern medicine in the field of dermatology

unfortunately did not make big steps in the treatment of diseases such as eczema and psoriasis. More and more people are increasingly turning to the traditional medical treatment to find a cure and a combination of the two methods is common in our days. Our aim is to create two creams, for eczema and onychomycosis, without using chemicals and parabens and preservatives according to the knowledge of aromatherapy based on the therapeutic properties of natural and essential oils.

Aromatherapy is a holistic treatment or prevention of diseases, that is intended to improve our health, to restore and maintain our balance, with the use of vegetable materials and aromatic compounds, known as essential oils. Rene-Maurice Gattefosse was a French chemist, who first coined the term "aromatherapy". Two basic mechanisms can explain its effectiveness. The first is the effect of the perfume in our brain, especially in the limbic system, through the olfactory system. The other is the direct effect of the pharmacological action of essential oils. Aromatherapy cannot heal the reasons of the illness but it can help our body to find a natural way to self-heal and to build a strong immune system.(1),(2),(4),(5).

The **essential oils** of plants are known for their therapeutic properties. They are volatile substances that can be found in flowers, leaves, roots, greens, woods, fruits, seeds, nuts and bark and resins. They result in two processes, steam distillation and extrusion or "cold pressing" where the oil is produced by mechanical pressure. The distillation method used varies according to the type of plant, and the part of the plant to be used. The quality of the oil depends on the method of distillation and the quality of the plant, which in turn depends on factors such as the area where the plant was grown and the weather phenomena during its development. The function of all the above elements also forms the final value of the oil.(1),(2),(4),(5).

Natural properties of essential oils:

- They are lighter than water and they have a characteristic odor, with a light yellow color
- They are flammable and if they are not carefully preserved, they change their fragrance
- Essential oils dissolve in all solvents e.g. alcohol, carrier oils but **not** in water
- Based on their composition, cannot be used directly on skin, except Tea tree and Lavender.

What to look for when using essential oils:

- They should not be used during pregnancy and beware of infants
- They should not come in contact with the eyes and when inhaled, the eyes must be closed.
- Always use vegetable oil to dissolve rather than synthetic.
- Before an external use make an allergy test
- Do not swallow the oils used in aromatherapy. Many of the oils are strong and can be dangerous if taken internally. For example, Basil reduces cerebrospinal nervous activity, Eucalyptus causes headaches and drunkenness, Lavender is a drug and causes deep lethargy.

Herbal therapy is a natural form of herbal and flower treatment. The herbs act holistically, as each part of the plant can have various healing properties, thus helping the homeostasis of the organism. They allow us to fight illness and to give our body health and well-being. The **natural oils** or **carrier oils**, that we will use in our formula, are derived from the fat constituents of the seeds, fruits and plant nuclei with the cold process (temperatures below of 27°C). With this method the organic oils keep all useful properties for health and beauty. Excep-

tion for Calendula oil, Carrot oil, Chamomile and St.John's wort oil which produced with the impregnating method in olive oil.(1),(2),(4),(5).

We call them **carrier oils** because they are the necessary "carrier" to which the essential oils will be added in order to be able to dissolve. All these natural oils are products that have very large penetration into human skin.

* They are very moisturizing and penetrate into deeper layers of the skin than a cream (e.g.Jojoba oil has an organic composition that is very close to the composition of sebum of the human epidermis in fact it imitates the natural collagen of the skin).

* They help regenerate skin tissues (e.g. Rosehip oil is an excellent source of fatty acids which help in the production of prostaglandin, that is needed to nourish and regenerate the skin).

* They have a high percentage of antioxidant, vitamins and they protect against free radicals and they can heal skin irritations (e.g. Calendula oil, Arnica oil).(1),(2),(4),(5).

REFERENCES

1. A. Chevallier, Encyclopedia of Herbal Medicine, Dorling Kindersley Limited, 1996
2. P. Ody, The Herb Society's Complete Medicine Herbal, Dorling Kindersley Limited, 1993.
3. D. Hoffman, The New Holistic Herbal, Shaftesbury, Dorset, Element, 1990
4. J. Valnet, The Practice of Aromatherapy, Saffron Walden, Essex, C. W. Daniel 1980
5. F. S. D' Amelio, Botanicals: A Phytocosmetic Desk Reference, CRS Press 1999
6. Δ. Ρηγοπουλος, Ατλας ονυχοπαθολογιας- Ονυχοκομιας ,Ιατρικες Εκδοσεις Γ Β Παρισιανος, 2006
7. D. D. Berker, Μαθετε για το εκζεμα ,Ιατρικες Εκδοσεις Π. Χ. Παρισιανος ,2008
8. Δ. Γ. Φαλκος ,Οδηγος Δερματικων Παθησεων για την Πρωτοβαθμια Φροντιδα,Υγεια , Εκδοσεις Φαρμακευτικος Κοσμος, 2012 ,κεφαλαια Εκζεμα- Ονυχομυκητιαση- Ψωριαση.
9. K. C. Güven, Kozmetik Formüler, Nobel Tıp Kitabevleri , 2008
10. F. Z. Saltan, Tibbi ve Aromatik Bitkiler ve İçerikleri, Nobel Tıp Kitabevleri, 2015,
11. T. Κανακαρης, Επι του Εργαστηριου, Φαρμακευτικος Κοσμος ,2001,170-176.