



## ISOLATION AND DIAGNOSIS OF CONTAMINATED FUNGI FOR SOME LOCAL AND IMPORTED COSMETICS

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### Abstract

The study revealed the selection of a group of cosmetics manufactured locally and imported and used in beauty salons located in the market and evaluated in terms of contamination with fungi, as these contain many fungi that have proved dangerous to the skin and health of the body, especially fungi that cause skin diseases, which can move to become The fungal fungi are *Aspergillus niger*, *Fusarium solani*, *Tinea corpora*, *Tinea faciei* and *Microsporum audouinii*. These are Eyeliner pens, which have fungal infections that can cause conjunctivitis, eyelids, red lips, Including local industry, which is followed by pollution of imported material. As observed when taking samples of the cosmetic brush and the pieces of sponge used randomly, so the frequencies of fungus and especially fungal fungi were high after the investigation and the use of method of agriculture and isolation.

**Keywords:** Cosmetics, contaminated fungi, skin diseases.

### Introduction

Beauty and adornment look behind them Girls of Eve and every lady moves from salon to another and from beauty center to another and looking for beauty in the centers of selling cosmetics and the role of adornment wherever they are and even some of them pay millions of dollars by buying cosmetics through the Internet, And the fact that young people are taking girls to cosmetics, and in the last ten years, girls and young women are taking their mothers and older sisters to the beauty centers (Draelos, 2012).

Girls between the ages of five and fifteen wear cosmetics, kohl, powders ,dyes, and their hair and nails, which are still growing and grow. If these preparations are contaminated with high quantities of lead, arsenic and other toxic metals, it has a harmful and multiplier effect on these young women as well as pregnant women and on the infant who are blinded daily (Malcolm, 1976 ; Orth *et al.*,1996).

The use of kohl and containing high percentages of lead will affect children Causing them disability, poor growth and mental weakness.

The women's bag is almost free of various cosmetics, for many women believe that using makeup is the only way to hide the imperfections of the skin (Becks and Lorenzoni, 1995 ; Draelos, 2012 ).

They use cosmetics continuously so that no one can see them without them and it comes to the habit of not being seen by people without makeup.

It is exhausting, but scientific studies have shown that this belief causes many risks to the skin and does not treat them, to contain those powders on chemicals such as mercury and lead, which is toxic and works to damage the skin and does not address the problems (Hugbo *et al.*, 2003 ; Becks and Lorenzoni, 1995).

The use of safe, tested, safe and safe cosmetics, free from toxic metals, harmful bacteria and fungi, which can cause many diseases and dangerous ingredients, no one objects to the use of all races and ages and is used according to the need of the beneficiary but the preparations

contaminated with toxic elements such as lead, arsenic and bacterial contaminants, And no sergeant shall hold accountable those who sell it and import it and all their interest is profit-making (Becks and Lorenzoni, 1995 ; Cowan and Steel, 1985).

It does not matter to those who suffer from blindness, or who has mental retardation, or who suffers from fragility in the bones or from hair loss or skin cancer (Orth *et al.*,1996; Osungunna *et al.*, 2010).

Eyelids and eyelashes for the eyelids and the eyelids of the eye, which are suffered by mothers and transmitted to the fetus and infants, where anemia, poor concentration and failure in educational achievement and development and lack of growth and pains in the digestive system and this is due to lead poisoning, which is found in black and kohl. Many health problems, ranging from superficial infections and internal infections to conjunctivitis due to eye cosmetics, can cause infections of fungal infections that can be transmitted during hand and hand care (Malcolm, 1976; El-Bazza *et al.*, 2009).

To inflammation of the scalp resulting from cosmetic surgery for hair to skin problems related to tattooing and body piercing is health, which can be transmitted by which an infection of some serious diseases such as AIDS and hepatitis virus B or C without forgetting the allergic reactions that produce various cosmetic products (Draelos, 2012 ; Okeke and La mikanara, 2001).

### Materials and methods

#### 1: Preparation of agricultural communities

**A: In the middle of the Sabroids (SDA) :** Prepare the center of the Sabroids by dissolving 65 g of the medium in a liter of sterile distilled water and then sterilizing the medium at a temperature of 121°C and under pressure of 1°C for half an hour then refrigerate the medium and leave for a period and then add drops of HCL and pour Medium in dishes until use.

**B: Medium potato extract and agar (PDA):** dissolve 40 g of medium in 1 liter of distilled water and sterile medium in the balances at a temperature of 121°C and under pressure

1°C atmosphere and for half an hour and then cold extracted the medium and leave for a period and then add drops of HCL and pour the medium in Dishes for use.

**2: Sampling:** Since there are millions of kinds of cosmetics, a group of them were selected, some of which were local and

imported, such as (powder, kohl pens, lipstick, cream, mascaras), taking 50 samples of each.

### 3: Calculation of fungus frequency

$$\text{Percentage of the frequency} = \frac{\text{Number of specimens in which the genus appeared}}{\text{Total numbers of samples}} \times 100$$

## Results and Discussion

### 1: Fungi frequencies apparent in local cosmetics:

**Table 1 :** Frequency of fungus in locally made preparations%

Type of product	Genus	Number of isolates	Number of isolates The number of samples in which fungal species appeared	Frequency %
Kohl pens	<i>Aspergillus niger</i>	12	8	16
	<i>Aspergillus flavus</i>	16	12	24
	<i>Tinea corpora</i>	7	3	6
	<i>Tinea faciei</i>	5	1	2
	<i>Penicillium chrysogenum</i>	4	2	4
Dry Powder	<i>Microsporium audouinii</i>	13	2	4
	<i>Microsporium canis</i>	10	3	6
	<i>Candida albicans</i>	18	4	8
wet powder	<i>Sirosporium sp.</i>	6	16	32
	<i>Ulododium sp.</i>	6	3	6
	<i>Penicillium chrysogenum</i>	11	13	26
Lipstick	<i>Penicillium notatum</i>	4	4	8
	<i>Trichiaegum sp.</i>	3	1	2
	<i>Fusarium solani</i>	10	7	14
Mascara	<i>Aspergillus niger</i>	20	18	36
	<i>Microsporium canis</i>	8	3	6
	<i>Trichiaegum sp.</i>	9	3	6
Makeup sponge	<i>Microsporium audouinii</i>	14	6	12
	<i>Tinea nigra</i>	5	3	6
	<i>Geotrichium candida</i>	16	10	20
	<i>Aspergillus niger</i>	13	13	26
	<i>Candida albicans</i>	16	12	24
	<i>Tinea faciei</i>	8	2	4

The results showed that all the samples isolated from the fungi were contaminated with evidence that there was a difference in their percentage among the preparations, as there were many fungus, which is a nurse and has a great impact on the body as well as the materials that entered the manufacture, (16, 24, 6, 2, 4) of the fungus (*Aspergillus niger*, *Aspergillus flavus*, *Tinea corpora*, *Tinea faciei*, *Penicillium chrysogenum*), respectively, and these numbers have been found to be a source of contamination of these pens because they are manufactured from a fatty substance containing carbon (Osungunna *et al.*, 2010 ; Siegert, 2010).

In addition to some additives that give the fungus an appropriate environment and this result was consistent with the found , which isolated a group of fungi, which caused the contamination of kohl pens and therefore was the cause of eye disease and the incidence of corneal and eye infections because of the possible chemical agents of fungus of exploitation also instructed the study to the use of some pens even and if not contain any fungus, but some of the eyes originally be infected with anxiety or wounds or any inflammation helps fungi in the extension of fungal yarns

within the eye and the presence of spores and reproduction (Orth *et al.*,1996; Abd –Al hussain, 2001).

As for the fungi isolated from the dry powder compared to the wet powder, there were significant differences in the proportions and the difference of their species and even their species. The percentage of fungus found in the dry bather (4, 6 and 8%) of fungi *Microsporium audouinii*, *Microsporium canis*, *Candida albicans*, respectively, while their percentage on wet bather (32, 6, 26%) for fungus *Sirosporium sp.*, *Ulododium sp.*, *Penicillium chrysogenum* is explained by the fact that the substance made of skin powder contains vitamins (Malcolm, 1976; Beheravan *et al.*, 2005; Campana *et al.*, 2006).

The chemicals added to it and used directly on the skin, have quantified the risk in use This study is analogous to what he did (Siegert, 2010; Jawetz *et al.*, 1998), which took a group of powders, randomly and in different names, by planting them in special circles, which Was characterized by the emergence of a group of fungi, which emerged colonies in the dishes, which may be a cause of skin diseases (Becks and Lorenzoni, 1995; Okeke and La mikanara, 2001).

Lipstick is one of the most common forms of liposuction. The lipstick contains a lot of minerals that are not counted, but the main and most serious problem is its continuous use. Causes the woman to be exposed to serious health and serious health problems over the course of her life.

The body will absorb the product because it is natural that the woman swallows a lot of it whenever her lips are dyed and the substances that are considered as lead are the most important carcinogens and the dark colors of lipstick are the most species that contain a larger amount of toxic lead, and light colors, the proportion of these substances in the lower results showed that there is a role for those metals and pigments in the presence of fungi, The incidence of *Penicillium notatum* was 8% and *Trichiaegum* sp. Is 2% and the fungus *Fusarium solani* was 14%. This result is explained by the fact that Lipstick contains methylprabin, a carcinogen that helps to disrupt endocrine and toxicity, which the European Union warns in the cosmetic industry (Kallings *et al.*, 1966; Tran *et al.*, 2001).

The larvae contained the fungus on the table, according to its frequency *Aspergillus niger*, 36%, the *Microsporium canis*, and the *Trichiaegum* sp. In a study of 499 products of cosmetics, including seven types of mascara, found

contamination of microorganisms and heavy metals in almost all products: 96% contained lead, 90% % Beryllium, 61% thallium, 51% cadmium and 20% arsenic (Orth *et al.*, 1996; Cowan and Steel, 1985).

Each product contains an average of two of the four most toxic metals: arsenic, cadmium, lead and mercury. In addition, mascara contains other chemicals such as parabens, which can affect the production and secretion of hormones, phthalates known to have carcinogenic effects and their negative effects on Fertility, liver and kidney. Petrolatum covers skin such as plastic, clogs pores and can affect hormones (Abd-Al hussain, 2001; Hugbo *et al.*, 2003).

Through the cultivation of samples of makeup sponge on the development circles, a group of fungus that was contaminated with the sponge has been found to be suitable for the fungi *Microsporium audouinii*, *Tinea nigra*, *Geotrichium candida*, *Aspergillus niger*, *Candida albicans* and *Tinea faciei* (12, 6, 20, 26, 24, 4) respectively Make-up sponge is one of the cosmetics that carry contaminated microorganisms is the cause of skin diseases as well as the disappearance of blackboards in their pores once the right conditions of moisture will occur disease and injury (Campana *et al.*, 2006; El-Bazza *et al.*, 2009).

## 2: Fungi frequencies apparent in imported cosmetics:

**Table 1 :** Frequency of fungi in imported formulations%

Type of product	Genus	Number of isolates	Number of isolates The number of samples in which fungal species appeared	Frequency %
Kohl pens	<i>Aspergillus niger</i>	15	6	12
	<i>Penicillium digitatum</i>	10	10	20
	<i>Penicillium candidum</i>	7	5	10
	<i>Tinea faciei</i>	9	4	8
	<i>Alternaria alternata</i>	12	3	6
Dry Powder	<i>Rhizopus oligosporus</i>	11	7	14
	<i>Mucor racemosus</i>	8	5	10
	<i>Candida albicans</i>	19	14	28
Water powder	<i>Sirosporium</i> sp.	6	5	10
	<i>Ulododium</i> sp.	8	6	12
	<i>Mucor racemosus</i>	4	2	4
	<i>Rhizopus stolonifer</i>	7	3	6
	<i>Penicillium chrysogenum</i>	11	4	8
Lipstick	<i>Penicillium chrysogenum</i>	5	4	8
	<i>Trichiaegum</i> sp.	3	1	2
	<i>Fusarium solani</i>	12	9	18
Mascara	<i>Aspergillus niger</i>	17	11	22
	<i>Microsporium canis</i>	6	2	4
	<i>Trichiaegum</i> sp.	4	2	4
Makeup sponge	<i>Geotrichium candida</i>	15	10	20
	<i>Aspergillus niger</i>	10	7	14
	<i>Candida albicans</i>	12	9	18
	<i>Aspergillus fumigatus</i>	5	4	8

Table 2 shows that *Aspergillus niger* was found in all samples with an appearance rate of 12, 22 and 8% for the samples of kohl, mascara and sponge respectively, followed by *Penicillium*, *Penicillium candidum*, *Penicillium chrysogenum* (8, 10, 8, 8% respectively), *Rhizopus oligosporus*, *Mucor racemos* and *Candida albicans*, showed an increase in dry browning (14, 10, 28) % Respectively (Kallings *et al.*, 1966; Siegert, 2010).

While the genus *Sirosporium* sp. and *Ulododium* sp. *Mucor racemosus* and *Rhizopus stolonifer* were found to be 12, 4 and 6%, respectively, on the water baud. Both *Tinea faciei* and *Alternaria alternata* were found to be 8% and 6%, while the rest were *Trichiaegum* sp. *The Fusarium solani* lipstick has an appearance ratio of 2, 18%, either the fungus *Microsporium canis* and *Trichiaegum* sp. Which appeared on the moss and the emergence rates of 4, 4% respectively (Becks and Lorenzoni, 1995 ; Beheravan, 2005).

In terms of the frequency of species of fungi *Geotrichium candida* and *Aspergillus fumigatus* on the makeup sponge and by the appearance of 18, 8%, the fungus species showed a difference in the number of species belonging to them.

The reason for the emergence of *Aspergillus* Fungi are missing in almost all samples because of the fact that it is a fungus of global spread and is commonly seen in warm and warm areas as well as "the composition of large numbers of breeding units, and some species have sexual phases or stone bodies and this made him adapt to all the circumstances observed difference (Jawetz, 1998; Draelos, 2012).

Those frequencies are between on the same substance and between fungus and another and between the same fungus on different cosmetics, there were clear differences between the ratios, which can explain that these substances have no control during the import operations, as well as the loss of laboratory examination and health control during their arrival, Which made it an environment suitable for the presence of fungal spores. This came in line with the findings of a study on the contamination of cosmetics in microorganisms, which showed that the presence of microorganisms, including fungi, on these materials of different types made them more dangerous when they arrived To the consumer (Orth *et al.*, 1996; Hugbo *et al.*, 2003).

The appearance of many skin fungus in cosmetics has led to the assertion that there is a relationship between the exposed women such as allergies, skin punctures or blemishes and even inflammation of the eyelid and sometimes unidentified diseases may be due to fungi and this is due to several reasons, including the containment of cosmetics on carbon materials Vitamins, and even amino acids, fatty acids and minerals (Malcolm, 1976; Osungunna *et al.*, 2010).

Once moisturized, these fungus begin to grow and form fungal yarns and prolong the period of storage. They are clamored spores that help them to maintain themselves (Kallings *et al.*, 1966; Cowan and Steel, 1985; Jawetz *et al.*, 1998).

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