

# Natural Cosmetics For Better Health – A Review

Sarath Kumar S\*, Anjana S, Megha Mariam Thomas, Jiju V, Elessy Abraham

Nazareth College of Pharmacy, Othara, Thiruvalla

Email: sarathin95@gmail.com

## INTRODUCTION

In ancient times, we fulfil our needs from the nature i.e. from plant parts, (like seeds, leaves, fruits, bark, flowers, seeds etc) from animal (milk, meat, fibres etc), whether it is for food, for cosmetics or any other things which are required for our day to day life. Since they are obtained from the nature, they contain less toxic substance, people in those era were healthy and were free from disease like cancer, cardiac diseases (like arrhythmia, cardiac arrest etc), skin diseases etc. They had a life span of 80-90 years or even upto 100years.

Attraction of people towards packed foods and synthetic cosmetics which contain harmful ingredients such as acetaldehyde, triclosan, benzaldehyde, paraben, petroleum distillates etc. Most of which are carcinogens. Cosmetics are articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance. Recent study found that an average adult uses nine cosmetic products daily. More than 25% of women use 15 or more. Cosmetics, toiletries, and skin-care products, including sunscreens, quite frequently cause adverse reactions, and are commonest single reason for hospital referrals with allergic contact dermatitis. It is estimated that 13% of the population are allergic to a cosmetic or cosmetic ingredient.

The personal care industry has been hijacked by misleading messages and outright false advertising. More concerning is that companies are putting their profits before the health and well-being of their consumers.

Skin cleansing agents remain on the body for a very short period of time and rarely cause significant adverse reactions, however, perfume and others constituents may cause skin irritation and allergic reactions. Moisturizers increase the hygroscopic properties of the skin; however, high concentration of these substances may cause irritation and exfoliation.

Deodorants and Antiperspirants are a hot topic. Mainly at stake is the frightening warning that toxic chemicals in deodorants and antiperspirants can cause cancer, Alzheimer's and allergic reactions.

Aluminum is one of the main concerns. But it is not the only concern. Most conventional deodorants contain a slew of toxic chemicals, such as aluminum, chlorohydrate, parabens, propylene glycol, triclosan, TEA, DEA, FD and C colors, and Talc.

Unfortunately, the clarity we desperately need is not so easy to come by. Numerous studies have been conducted to examine the effects of deodorant and antiperspirant on the body, but the findings show conflicting data.

Some of the synthetic products to which we are exposed every day are discussed below in this article:

## 1. AIR FRESHENERS

Air fresheners ensure that we come home to a sweet-smelling house and car. They have become essential homecare products and have replaced good old cleaning routines and traditional potpourris and pomanders made of lavender blooms, spices and citrus fruits.

### 1.1 Mechanism of Air Fresheners

Air fresheners contain some chemical substances that assault the olfactory receptors in our nostrils, rendering them incapable of recognizing other smells. They add a bunch of other harmful chemicals into our homes, deteriorating the air quality further.

Some of the common chemicals found in air fresheners:

**Acetaldehyde** – This chemical with a deceptively innocuous fruity odor is a known carcinogen.

**Benzaldehyde** – Classified by United States Environmental Protection Agency as a hazardous substance, this chemical smells of almond oil.

**1, 3-Dichloro-2-propanol** – A strong-smelling chemical known to cause kidney and liver cancers.

**1, 4-Dichlorobenzene** – Another carcinogen with a strong smell that can mask other odors by numbing our sensory receptors.

**Methyl pyrrolidone** – featured on the list of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity according to the California Proposition 65.

Natural alternatives to avoid these damages are:

- Add to these some petroleum-based solvents and fragrances, and we have a potent concoction of cancer- causing substances, not to mention their role in causing neurodegenerative diseases like Alzheimer's.
- First and foremost opening an opening a window or two as nothing beats good old fresh air for shooing away offensive odour.
- Filling a small spray bottle with a mixture of four teaspoons baking soda and four cups of water and then spraying the solution in a fine mist to neutralizer odours.
- The green Guide suggest that a few drops of an organic essential oil (lemon, orange or lavender are the popular choices) with distilled or purified water and spraying with a mister.
- Another natural method is wrapping the cloves and cinnamon in cheesecloth and boiling them in water.

## 2. CANDLES

Candles have lighted people's homes for centuries since they were first made by Romans and Egyptians. In this age of electric lights, candles are used mainly as accents for their soft glow and romantic feel. Paraffin wax developed from petroleum became popular in the 1850s. This made candle making easy, and candles cheap.

The fumes released as paraffin wax burns contain carcinogens such as toluene, aldehydes, ketones and other fossil fuel components which can build up inside homes. An occasional candle-lit dinner may not cause cancer, but a regular habit of burning candles as part of a relaxing evening routine may.

Toxicity can be avoided by;

Shield your candle flames from draughts by all means, but ensure good ventilation. Small, enclosed spaces like bathrooms are no place for burning candles.

## 3. TOOTHPASTE

Brushing our teeth with a dollop of toothpaste twice a day or more is necessary for oral health. Fluoride in toothpaste is supposed to reduce cavities, but people who have high amounts of fluoride in their drinking water have been known to develop fluorosis, a degenerative condition affecting teeth and bones.

Another cancer - causing agent in toothpaste is triclosan, an antibiotic substance added to ensure dental hygiene. On reacting with chlorinated water, it forms chloroform, which is a known hepatotoxic.

Although triclosan exposure for over six months is known to cause hepatic tumours in rodents, whether this compound directly causes liver tumours or just aids their development is still under speculation. However, it is a relief that many toothpaste companies, including Colgate, are reformulating their products excluding triclosan.

### **3.1 Triclosan**

Triclosan is a pesticide that has antibacterial properties. It is often found in soaps, tooth paste etc. because it helps to get rid of potentially dangerous bacteria that have built up on your skin during the day. Unfortunately, it is this antibacterial action of triclosan it have problem of antibiotic resistance (which encourages the evolution of resilient bacteria that are extremely difficult to kill). Triclosan is called an endocrine disruptor. Endocrine disruptors cause potentially dangerous fluctuations in your hormone levels, and triclosan has been proven to have a particularly strong influence on the female sex hormone estrogen. The hormonal changes caused by triclosan can dramatically increase the likelihood of developing breast cancer.

Natural alternatives to avoid such damages are:

- Just drab your tooth brush in sea salt and brush away as usual (to avoid abrasion you can also dissolve the salt in water first and then dip your brush in salt water before brushing).
- Herbal tooth paste powders can be used in place tooth paste.
- Coconut oil is another great natural tooth paste alternative because of its anti fungal and anti bacterial properties come in handy for mouth cleaning.
- Coconut oil can be also combined with some essential oils since they too have anti bacterial properties

## **4. HOT TEA**

The health benefits of tea are drawing people to the habit of drinking freshly brewed tea, which has been an age-old tradition in many communities across the world. While tea is packed with antioxidant power, drinking it piping hot may give you cancer of the esophagus. Researchers have come to this conclusion

because of higher incidence of oesophageal cancer in Asian and Middle Eastern populations that habitually drink hot tea.

## 5. WEED KILLERS

Weed killers have made both manual and mechanical weeding redundant. Weed killers containing 2, 4-D are used exclusively for killing broadleaf plants such as dandelions in lawns. But the Glyphosate in Roundup is indiscriminate in its action, destroying all types of vegetation.

World Health Organization has voiced concerns about the cancer risk posed by these active ingredients as well as the surfactants that come along with them. But the large corporates that control the agriculture industry turn a deaf ear to that.

With carcinogens all around us, avoiding cancer may seem like a losing battle. As you can see, most of these cancer risks are the fruits of modern technology, which is why we find cancers to be less prevalent in many undeveloped and economically backward countries.

## 6. SUNSCREEN

We believe sunscreen to protect our skin and prevent cancer and aging, yet sunscreen can accelerate aging and increase cancer risk. Sunscreen not only blocks your skin's ability to absorb vitamin D from sunlight, which is essential for good health, but it also contains numerous toxic ingredients that serve as hormone disrupters and carcinogens while accelerating formation of free radicals. In fact, some studies show that areas where more sunscreen is applied there is a higher incidence of skin cancer. And all of this can lead to premature skin aging. Dangerous ingredients include:

- PABA
- Oxybenzone
- Dioxybenzone

Natural alternatives to avoid their damages are:

- Carrot seed oil. They contain high amount of vitamin A and beta carotene. Both of these ingredients are anti oxidants, nutrients that shield the skin from oxidative particles known as free radicals.

- Coconut oil. Contains high amount of anti oxidants that helps to prevent burning and oxidative damage.
- Red raspberry seed oil. It was found that raspberry oil is same as that of titanium oxide in sunscreens.it have anti-oxidant and anti-inflammatory effect.

## 7. WATER BOTTLES

Plastic water bottles, Made from petroleum distillates, plastics contain chemicals that leech into the water in the bottles, and can cause neurological disorders, hormone disruption, and cancer among other illnesses. Hormone disruption is of particular concern in premature aging.

An alternative that avoids such damage is - choose a glass or stainless steel water bottle.

## 8. PERFUME

Perfumes and colognes contain fragrance with chemicals that can cause everything from respiratory distress to hyper pigmentation. Perfume sprayed right on the skin and pulse points and is absorbed right into the blood stream, distributing the chemicals throughout the body.

A natural alternative that avoids such damage is:

An essential oil as a fragrance. Sally B's carries a few great solid fragrances. They don't last as long as regular perfumes, but can be kept in purse and re-applied more often.

## 9. CANNED FOOD

### 9.1 Bisphenol or BPA

Most canned food these days have a plastic coating inside the can to supposedly keep the food, vegetables, and fruits fresh. Because humans are not supposed to eat plastic material made from crude oil.

BPA is a toxic chemical that causes hormone imbalances and wide variety of health issues ranging from hypertension, aggression, obesity to cancer and heart disease. Based on FDA 17% of the American diet comes from canned foods yet there are no regulation or safety standards regarding the amount of BPA in canned foods. A study by Environmental Working Group shows that more than 50% of cans with brand names have toxic BPA in them.

### 9.2 Leaking Aluminium leaks

People are unaware that most often foods are put into aluminium cans, then seals, and then cooked, supposedly retain the freshness. Well, it will certainly retain the aluminium free radicals hanging around after heating and contaminating the contents.

Over a period of time aluminium accumulation in body can cause memory problem like Alzheimer's. More than 5,000 million pounds of aluminium is used every year for making food cans. Aluminium cans have several advantages for the producer including light weight, compact packaging and lower price. Most canned foods like soups, vegetables, chicken or beef broth and tomato sauces are made of aluminium because it's more economical.

Some believe that the plastic lining of the aluminium cans are supposed to prevent corrosion and contaminating food with aluminium. But the reality is that most of the time these plastic liners can't completely protect foods against aluminium. Since cans leak aluminium when heated and while they are sealed, they will contaminate food.

## 10. NAIL SALONS

Hazardous Chemicals found in nail salon products, such as polishes, strengtheners, removers, and artificial nail liquids, can contain many chemicals. Some of these chemicals are more harmful than others. Over time with repeated use or exposure to high concentrations, these chemicals could damage your body or cause an allergic reaction. Every person is different and not everyone who breathes in these chemicals or gets them on their skin will experience these effects now or in the future. Some potentially hazardous chemicals, the types of products they can be found in, and how they can affect your body include:

- **Acetone (nail polish remover):** headaches; dizziness; and irritated eyes, skin, and throat
- **Acetonitrile (fingernail glue remover):** irritated nose and throat; breathing problems; nausea; vomiting; weakness; and exhaustion.
- **Butyl acetate (nail polish, nail polish remover):** headaches and irritated eyes, skin, nose, mouth, and throat.
- **Dibutyl phthalate (DBP) (nail polish):** nausea and irritated eyes, skin, nose, mouth, and throat. Long-term exposures to high concentrations may cause other serious effects.
- **Ethyl acetate (nail polish, nail polish remover, fingernail glue):** irritated eyes, stomach, skin, nose, mouth, and throat; high concentrations can cause fainting.

- **Ethyl methacrylate (EMA) (artificial nail liquid):** asthma; irritated eyes, skin, nose, and mouth; difficulty concentrating. Exposures while pregnant may affect your child.
- **Formaldehyde (nail polish, nail hardener):** difficulty breathing, including coughing, asthma-like attacks, and wheezing; allergic reactions; irritated eyes, skin, and throat. Formaldehyde can cause cancer.
- **Isopropyl acetate (nail polish, nail polish remover):** sleepiness, and irritated eyes, nose, and throat.
- **Methacrylic acid (nail primer):** skin burns and irritated eyes, skin, nose, mouth, and throat. At higher concentrations, this chemical can cause difficulty breathing.
- **Methyl methacrylate (MMA) (artificial nail products, though banned for use in many states):** asthma; irritated eyes, skin, nose, and mouth; difficulty concentrating; loss of smell.
- **Quaternary ammonium compounds (disinfectants):** irritated skin and nose and may cause asthma.
- **Toluene (nail polish, fingernail glue):** dry or cracked skin; headaches, dizziness, and numbness; irritated eyes, nose, throat, and lungs; damage to liver and kidneys; and harm to unborn children during pregnancy.

## 11. HAIR DYES

Most synthetic hair dye products contain chemicals called secondary amines or tar derivatives that have been linked to cancer.

A natural alternative that avoids such damage is;

Switch over to a natural hair dye used since times immemorial – henna. Combine with sesame oil and curry leaves, or mix with beetroot juice, or add into a mix of curd, lemon juice and tea – whatever the shade you desire, henna can help you get it and in the process, also keep your body cool.

## 12. SHAMPOO

Toxic shampoos that contain petroleum distillates and other chemicals. Many shampoos also contain sodium lauryl sulfate (SLS) and sodium laureth sulfate (SLES), which can damage mucous membranes, the respiratory tract, and the immune system. They may also contain fragrance. When a label lists fragrance, it may indicate as many as 4,000 different compounds. Many of these can lead to health problems, respiratory distress, and may even be carcinogenic and impose fertility issues or complications.



Shampoos available in the market make use of chemicals such as sodium lauryl sulfate to produce foam that can cleanse dirt and grease from hair. But along with this, they also remove all oil from the scalp that is so essential to nourish your hair.

A natural alternative that avoids such damage is;

Soapsuds or reetha in combination with shikakai. Mix equal quantities of soapnut and shikakai powders and make into a paste with warm water; wash hair using this paste. If you find your hair feels a bit too dry with this 1:1 proportion, experiment with lesser quantity of soapnut powder.

## 13. LIPSTICK

A study by US consumer group Campaign for Safe Cosmetics, in October 2007 found 60 percent of lipsticks tested contained trace amounts of lead, especially in red lipsticks. The levels of lead varied from 0.03 to 0.65 parts per million. One third of the lipsticks containing lead exceeded the 0.1 ppm limit set by the U.S. Food and Drug Administration (USFDA) for lead in candy. Lead is being used in Lipstick mainly for the pigments required to obtain needed colours.

### 13.1 Impact of Lead on Health

People are generally exposed to lead by three major ways: inhalation, ingestion and absorption. Routes of exposure to lead include contaminated air, water, soil, food, and consumer products.

The more toxicologists and other researchers investigated the health effects of lead, the more they realized that even very low levels of lead exposure were hazardous. Lead may cause neuro developmental effects in children. Other effects include cardiovascular, renal, gastrointestinal, haematological and reproductive effects. Children of six years old and below that are more at the risk.

When the person is exposed to the lead, the blood lead level of the person raise up that leads to the lead poisoning. Adults that are exposed to a dangerous amount of lead can experience anaemia, nervous system dysfunction, weakness, hypertension, kidney problems, decreased fertility and increased level of miscarriages, and low birth weight and premature deliveries. Children exposed to high levels of lead show similar symptoms, including anaemia, kidney damage, colic, neurological impairment, and impaired vitamin D metabolism. According to World Health Organization, no blood lead level is safe.

A natural alternative that avoids such damage is;

Crush pomegranate seeds and mix in some milk cream; apply to your lips every day and your lips will be naturally red and full. You can also combine crushed pomegranate seeds with sugar and olive oil and use this paste to gently scrub your lips.

## 14. GRANITE

Granite is a hardwearing stone that looks great when used for flooring, wall cladding or as countertops. When polished to a mirror finish, it is easy to clean and less likely to stain, compared to marble. These factors have made it popular in many modern kitchens. But granite is known to emit radon, a radioactive gas which is believed to increase risk of cancer. It is a decay product of radium formed when the uranium and thorium in bedrocks decay.

Granites come from many countries, and are available in many colors. Their radioactivity is also just as varied. Radon gas is colorless and odorless, which makes it impossible to detect with our senses.

When emitted by the granite inside homes, it remains close to the ground and accumulates, steadily releasing radioactive daughter elements and ionizing radiation. According to EPA, radon is the second leading cause of lung cancer.

Toxicity can be avoided by;

Testing for radon gas is the only way to detect its presence. Reducing granite use and providing active ventilation in the areas it is used may help cut down the risk of exposure

## 15. MICROWAVE POPCORN

Although you can make popcorn in a frying pan or air pop the kernels, But this convenience comes at the risk of cancer. This time, the culprit is the waxy coating of the popcorn bags that produces perfluorooctanoic acid, a carcinogen implicated in prostate and liver cancer.

The risk was first pointed out over 10 years ago in the Journal of Occupational Medicine (1993), but it is a shame that we still continue to favor these all-in-one popcorn bags merely for convenience when healthier ways of popping the corn could give us the same results. To avoid this toxicity; Try the old fashioned way of cooking popcorn on the stove and use organic coconut oil and real butter for a delicious anytime snack.

## 16. BODY WASHES

Body washes, cleansers and bubble baths may contain SLS and SLES, which we discussed above. They may also contain DEA (diethanolamine), MEA (monoethanolamine) or TEA (triethanolamine). These chemicals are carcinogens and hormone disrupters, which can prematurely age you.

## 17. ANTIPERSPIRANTS

Antiperspirants are personal hygiene products designed to control sweating and body odour. They contain ingredients that control sweat and body odour safely and effectively. Antiperspirants contain imidazolidinyl urea and DMDM hydantoin, two preservatives that are components of formaldehyde. This can cause joint pain, asthma, cancer, and other conditions. They also often contain aluminum, which is associated with brain conditions like Alzheimer's disease.

## 18. FACE WASHES

4 commonly used toxic ingredients that you should avoid when buying face wash.

### 18.1 Sodium Lauryl Sulfates (SLS)

Our skin produces natural oils that helps with the appearance of fine lines and wrinkles, but when we use products containing sulfates, it's strips us of those oils, causing an imbalance of oil production, leaving us with excessively oily or extremely dry skin, the exact thing we are trying to get rid of! The ingredient is commonly found in shampoos and used in carpet cleaners, dishwashing liquid and household cleaning products like Clorox and Lysol .

### 18.2 Parabens

(Specifically Propyl-, Isopropyl-, Butyl-, and Isobutyl- parabens): According to the Environmental Working Group, "Parabens are estrogen-mimicking preservatives used widely in cosmetics. The CDC has detected parabens in virtually all Americans bodies. According to the European Commission's Scientific Committee on Consumer Products, longer chain parabens like propyl and butyl paraben and their branched counterparts, isopropyl and isobutylparabens, may disrupt the endocrine system and cause reproductive and developmental disorders."

### 18.3 Fragrances

Many times it's a blend of synthetic chemicals that have been associated with allergies, dermatitis, respiratory distress and reproductive problems, according to the EWG. Alternative look for products that use

essential oils or fruit/extract for fragrance.

## **18.4 Formaldehyde**

Often found in plywood, paint primers, fingernail products & cosmetics, formaldehyde can destroy your skin's natural protective oils, causing dry, flaky skin and may lead to allergic reactions including hives and blisters.

# **19. SOAP**

## **19.1 Toxic Soap Ingredients**

### **19.1.1**

### **Triclosan:**

Triclosan is a pesticide that has antibacterial properties. It is often found in soaps tooth paste etc. because it helps to get rid of potentially dangerous bacteria that have built up on your skin during the day. But it is an endocrine disruptor. Endocrine disruptors cause potentially dangerous fluctuations in your hormone levels, and triclosan has been proven to have a particularly strong influence on the female sex hormone estrogen. The hormonal changes caused by triclosan can dramatically increase the likelihood of developing breast cancer.

### **19.1.2 Dioxane:**

Since dioxane is a synthetic derivative of coconut, some people mistakenly assume that it must be an innocuous ingredient in personal care products. However, it is actually a carcinogenic chemical that is also toxic to the brain, liver and kidneys. Like the other toxic soap ingredients in this list, dioxane should be avoided.

### **19.1.3 Sodium laurel sulfate(SLS):**

Sodium lauryl sulfate (or SLS) is one of the most common toxic soap ingredients added to soaps and shower gels. When SLS bonds with other common soap ingredients, it becomes a carcinogenic nitrosamine. One of the reasons SLS is so dangerous is that it permeates your skin very easily, and also makes your skin more permeable to all the other chemicals mentioned on this list. Further, tests on animals show that SLS causes skin irritation, leads to organ toxicity, promotes hormonal disruptions and increases your susceptibility to mood disorders.

### **19.1.4 Diethanolamine (orDEA):**

Diethanolamine (or DEA) is also extremely easily absorbed through your skin, and it combines with the nitrate preservatives commonly added to soaps to create nitrosodiethanolamine (or NDEA). A wide range of studies have shown that NDEA is a potent carcinogenic, and it is most strongly linked to the development of kidney and liver cancers. In addition, pregnant women should be especially cautious of DEA, as it is capable of interfering with your body's ability to absorb a nutrient called choline. Unborn children need choline if their brains are to develop properly. All of these concerns are also likely to apply to triethanolamine (or TEA), which is a derivative of DEA. If you are pregnant or nursing you should definitely avoid this and all other toxic soap ingredients on this list.

### **19.1.5 Formaldehyde:**

Formaldehyde is commonly found in soaps, and so are chemicals that release formaldehyde (e.g. diazolidinyl urea). As would be expected from any of the toxic soap ingredients listed here, Formaldehyde is a chemical to avoid. Formaldehyde weakens the immune system, leading to a reduced resistance to disease, and it can also cause respiratory disorders, chronic fatigue, frequent headaches, and an irregular heartbeat. **19.1.6 Parabens:** Parabens (such as methylparaben and propylparaben) are preservatives that are commonly added to bars of soap. However, scientific studies have repeatedly shown that being exposed to parabens boosts a woman's risk of developing any form of breast cancer (because parabens mimic the action of the hormone estrogen). Further studies have demonstrated that parabens can also cause neurological problems by way of nervous system toxicity. Thankfully, many companies that make soaps and shower gels will now explicitly advertise the fact that they do not use parabens.

#### **19.1.7 Fragrance:**

Almost all bars of soap contain added fragrances in order to make them more enjoyable to use in the bath or shower. However, printing 'fragrance' on a soap label can be extremely misleading, as this often means that up to thousands of different chemicals have been added in order to create the special smell of the soap. Fragrance ingredients increase your risk of developing a wide range of medical problems, including chronic dizziness, nausea, rashes, depression, respiratory distress and severe headaches. On a scale of one to ten, the Environmental Working Group rates fragrance as deserving of an eight.

#### **19.1.8 PEG-6:**

PEG-6 is another one of these extremely common toxic soap ingredients, and it regularly contains toxic impurities that can cause a wide range of dangerous conditions. Studies show that exposure can cause a large increase in your likelihood of developing breast cancer.

## **20. FAIRNESS CREAM**

Most creams sold in the market are a dangerous cocktail of compounds like steroids, hydroquinone, and tretinoin; the long term use of which can lead to lethal health concerns like permanent pigmentation, skin cancer, liver damage, mercury poisoning and others. Skin lightening creams contain mainly two chemicals, hydroquinone or mercury. "Many long term users of fairness creams report with a difficult-to-treat condition called refractory pigmentation.

## **CONCLUSION**

Although, cosmetic products have rarely been associated with serious health hazards, this does not mean that cosmetics are always safe to use, especially with regard to possible long-term effects as the products may be used extensively over a large part of the human lifespan. Cosmetics and personal-care products may contain ingredients whose safety is unclear or which are known to pose health risks. Testing of cosmetic products is voluntary and controlled by manufacturers. Many of the cosmetics, primarily the hair dyes and shampoos may contain ingredients classified as known or probable human carcinogens. Furthermore, many of them may also contain penetration enhancers increasing the penetration through the skin. Little research is available to document the safety or health risks of low-dose repeated exposures to chemical mixtures like those used in personal-care products and the absence of data should never be mistaken for proof of safety.

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