

Research Article

The Mystery of Shea Butter: A Thesis on Using Shea Butter as a Protective Against Coronavirus Viruses

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Abstract

Because of the small size and weight of viruses, the majority of them are airborne; however, recent research has shown that Coronavirus is also airborne and can be transmitted by air. When we use natural Shea butter to cream our skin, the virus is attracted to our body and arrested; it has some antiviral ingredients that, when applied to the skin; firstly, it will arrest any virus that comes in touch with it and render the virus immobile. Secondly, it prevents the virus from spreading from one location to another. Thirdly, it initiates the disintegration of this virus because of some antiviral component of this butter. The virus will be unable to thrive on our bodies until we wash it away. Shea butter has long been an essential part of African culture, and an analysis of its traditional applications reveals the actual and very simple versatility that this natural balm offers. The numerous traditional uses discussed here, while amazing and fascinating, are only a few of many. From stretch marks and infection prevention to Cleopatra's own ancient beauty balm, Shea butter has endured the test of time, proving to be an indispensable multi-purpose product for beauty and a number of other purposes.

Keywords

Life Science, Mixed Methods, Shea Butter, Coronavirus Viruses

1. History of Shea Butter

In ancient times, Shea butter was used particularly for purposes of beauty for a variety of items. Shea butter in Ancient Egypt dates back to Cleopatra's period. She used Shea butter to care for the skin and hair, as we are told that the butter was brought to her in big clay pots. It also appears that Queen Sheba was also using Shea butter.

For the early African kings, the Shea tree was used to make coffins. The tree was considered sacred too. The northern Nigerian people used Shea butter to cook their meal, mixing it with palm oil. That means it can be eaten as well, aside from using Shea butter directly on the skin.

1.1. The Extraction Process

Shea butter is made from the African Shea tree nut (*Vitellaria Paradoxa*). The butter is fatty oil that stays firm at room temperature but at body temperature melts. Shea butter in its raw form has an off white or ivory color which turns white when it undergoes many processes. The Shea tree nuts are wide much like the chestnuts. The nuts are gathered and then dried and the outer shell is removed, the nut is then crushed by machines or one may use a pestle and mortar which was used in the traditional times in this case. The roasting process starts after the crushing process. When roasted, the Shea nut emits a smoky smell that's why it has the smoky fragrance as butter. Then the roasted Shea nuts are boiled in water which

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enables the butter to float on it, making it ready for scooping and packaging.

1.2. Identifying the Type of Shea Butter

It is from the Shea butter production process that you decide whether the Shea butter is raw, unrefined, processed or ultra-refined. After scooping out of the boiling process the Shea butter may be used directly from that stage or undergo other processes to introduce certain properties, extract impurities and smell or alter the color.

1.3. Type of Shea Butter

1.3.1. Raw Shea Butter

Raw Shea butter is the butter after extraction which has not undergone any production process. It will most likely contain impurities of nuts. It typically has a deep yellow color.

1.3.2. Unrefined Shea Butter

Unrefined Shea butter is raw Shea butter which is filtered but does not change the Shea butter's properties.

1.3.3. Refined Shea Butter

Refined Shea butter is Shea butter that has undergone refining to eliminate the odor and changes its properties often. These may contain other chemicals, such as preservatives or fragrances. It is usually smooth with a whitish color and not the deep ivory yellow colour.

1.3.4. Ultra-refined Shea Butter

Ultra-refined Shea butter has undergone a variety of refining procedures, and the mass manufacturing of cosmetics has also undergone several modifications. The quality varies depending on how natural a lip balm, lip-gloss or hair-conditioner for example is made. It usually has a very white colour.

2. Raw Shea Butter

Shea butter in its raw form contains a lot of properties that make it the best type of Shea butter for treating many skin conditions. Because of its odor and hardness, Shea butter in its raw form can be unpleasant to use making it the reason why people choose to use the processed ones because of softness and ease to use.

2.1. Properties of Shea Butter

- 1) Anti-inflammatory
- 2) Anti-aging
- 3) Moisturizing and emollient properties
- 4) Antioxidant

- 5) Curing
- 6) Comprises vitamins A, E, and F
- 7) It provides a factor of 6 for sun safety due to the cinnamic acid in it
- 8) Anti-bacteria

2.2. Uses of Shea Butter

The use of Shea butter can be traced all the way to ancient Egypt, by a woman named Cleopatra VII Philopator, she was the last active ruler of the Ptolemaic Kingdom of Egypt, early accounts tell of large caravans carrying Shea butter clay jars for her use. But Cleopatra isn't the only woman in Africa who has known Shea butter's beautiful benefits; African women to this day cover their pregnant bellies with Shea butter to avoid stretch marks. In northeastern Ghana pregnant women often squat over warm water basins that contain Shea butter to help relieve childbirth pains. The butter is also used to blanket babies when they are born [4, 9].

Shea butter is used quite literally in the Gambia to help combat infant mortality; raw Shea butter is applied to the baby's umbilical stump, and studies show that the naturally occurring antibacterial factors found in Shea help avoid infection in the cut cord [1, 6, 13].

Interestingly, Shea butter is often used for battling a particular kind of infection known as Simulium in Africa. Parasitic infections are still a very rampant problem in West Africa and severe cases can become rather unpleasant, if not life-threatening. For the Parasite of Simulium, The infection is caused by the bite of an adult black fly (Simuliidae) and the infection of this parasite may grow into an unpleasant condition if it is allowed to penetrate the skin. The Topical use of Shea butter has been found to be successful in protecting a person from Simulium Parasite contraction.

For decades, Shea butter has been an important part of African culture and an examination of its traditional uses shows the true and very simple versatility that this botanical balm provides. The numerous traditional uses mentioned here, while impressive and fascinating, are just a few of many. From stretch marks and infection prevention to Cleopatra's own ancient beauty balm, Shea butter has stood the test of time, proving to be an invaluable multi-purpose tool for beauty and a variety of other applications.

2.3. What Are the Components of This Butter That Makes It Unique

In the fat, which is a potentially rich source of vitamin E (a natural antioxidant); it has exceptionally high amounts (5–15 percent) of non-saponifiable lipid (NSL) constituents [13, 16].

Approximately two-thirds of the vitamin E present in Shea butter occurs in the form of alpha-tocopherol, a component with the highest antioxidant activity among tocopherols in most cases; followed by δ (15%), γ (14%), and β (7%) t.

(Maranz & Wiesman, 2004) [6, 7, 11].

Shea butter NSL also contains relatively high amounts of phytosterol (up to 6 percent) (usually called cholesterol-reducing nutritional factors): campesterol, stigmasterol, α -sitosterol, and α -spinosterol, 4,4'-dimethylsterol triterpenes alcohols: cinnamic acid esters (oryzanols), α -amyrin, beta-amyrin, parkeol, butyrospermol, and lupeol; hydrocarbons such as phenolic and keratin compounds (Peers, 1977; Itoh et al., 1980; Crews et al., 1997; Di Vincenzo et al., 2005; Krist et al., 2006) [1, 2, 4, 13, 15].

Shea butter's phenolic profile is composed of catechin family compounds close to those found in green tea, which has recently gained substantial popularity as an antioxidant-rich health drink (Maranz et al., 2003). [2, 4, 6] Gallic acid (27 percent of the mean total content of the nine compounds of the catechin family cited here) was the most prominent factor in shea kernels followed by Gallocatechin (23%), epigallocatechin (16%), epigallocatechin gallate (13%), gallocatechin gallate (7%), and catechin, epicatechin, and epicatechin gallate (3%, respectively). Quercetin was present in trace quantities only, reflecting an estimate of 0.1 percent of overall phenolic compounds (Maranz & Wiesman 2004) [6]. The authors discovered, however, that substantial losses (90-98%) of these components occur after extraction of the butter.

3. Understanding Viruses and How It Inflicts on Its Victims

There is no reference in Whittaker's 5-kingdom grouping of other acellular species such as viruses, viroid's, and lichens. Virus has not found a place in classification and if we consider living as those species that have a cell structure, they are not actually 'living.' These are non-cellular species which have an inert, crystalline structure outside the living cell [17].

When they infect a cell, the host cell process is taken over to replicate itself, killing the host. Louis Pasteur gave the name virus, meaning venom or poisonous fluid. Pasteur was a famous French scientist, microbiologist, and chemist for his discovery of vaccination theory, microbial fermentation, and pasteurization. He is known for his groundbreaking breakthroughs in disease causes and prevention and this is discoveries have ever since saved many lives.

3.1. Evidence That Shows That Virus Are Living

- 1) They have genetic material (RNA or DNA).
- 2) They can grow.
- 3) They can be transmitted from one host to another.
- 4) They can mutate.
- 5) They show irritability because they react to heat, radiation, and chemicals.

3.2. Evidence That Shows Virus Are Non-living

- 1) They can be crystallized and store for a very long time.
- 2) They do not have a cell wall or cytoplasm.
- 3) They are inert outside the host.
- 4) They don't have organelles or don't have a metabolism.
- 5) They cannot function outside the host.
- 6) They do not show cell division.

3.3. Natures of Viruses

Viruses have been found to be smaller than bacteria as they move through filters that are bacteria proof. M. W. Stanley (1935) [14] reveals that viruses can be crystallized and that crystals consist primarily of proteins, and that viruses often contain genetic material that can be either RNA or DNA. There is no virus that contains both RNA and DNA. A virus is a nucleoprotein that has an infectious genetic material.

These viruses share a common protein-dividing enzyme that is necessary for viral replication, termed 'main protease' in coronavirus and '3C protease' in enterovirus. Researchers studied the protease x-ray crystal structures and then produced a series of α -ketoamide compounds which were predicted to fit comfortably in the active sites of the protein-dividing enzymes thereby interfering with their operation.

4. How Shea Butter Help to Protect Against Viruses

Studies have shown that this virus (Coronavirus) cannot operate outside the body, one of the first benefits of this butter is that if it is used to cover the skin and the virus comes into contact with it; first, the virus is arrested (held fixed to a point on the skin) and cannot easily move or enter the body. It then decays as the virus does not stay on the skin for a long time.

Because of the small sizes and weight of these viruses, most are airborne, recent studies have also shown that Coronavirus is indeed airborne and can be transmitted by air. [5, 9, 14] In this time, once we use this natural Shea butter to cream our body, the virus will be attracted to your body and arrested, it will not be able to live your body until you wash it off.

In addition to the arresting actions of this Shea butter, it contains; keratin Compounds, Cinnamic acid, Epicatechin Gallate and others components that resist replication of this virus [12, 15], researchers published in ACS 'Journal of Medicinal Chemistry' have produced α -ketoamide compounds that block replication of coronaviruses, as well as other disease-causing viruses, in the laboratory.

4.1. How to Use Shea Butter to Guard Against Coronavirus

It is recommended that you apply this butter to your skin before wearing any protective gear. Millions of these viruses may have covered the kits you are wearing, and if necessary precautions are not taken, the virus may enter your body during the removal process.

Many people felt that wearing a mask would protect them completely from the virus, and as a result, they unintentionally exposed themselves to the infection by using the mask incorrectly. Masks are effective only when used in combination with frequent hand-cleaning with alcohol-based hand rub or soap and water (according to WHO) [17, 18]. There are possibilities of an opening between your face and the mask in which the virus can access your face, but if this butter has been rubbed before wearing the mask, any virus that may want to pass via the opening will be arrested by the butter.

The spreading of the virus can be reduced if we all accept the culture of use of this Shea butter, if you mistakenly touch an infected object with your hand that has been protected by this butter, the virus will only stick to your hand and be rendered motionless and inactive even if you touch any other person the virus remains inactive due to the butter.

It is also very important to inculcate the habit of creamy our hands immediately after using sanitizers or washing with soap, washing with soap or using sanitizer is good but so many of them leave our hand dry and this aids the movements of these free radicals (virus). Any contact with an infected surface makes our hand a medium of transmission of these viruses.

4.2. Other Benefits of Shea Butter Among Many Others Include

Shea butter has anti-inflammatory properties that make the skin feel relaxed from inflammation or infection of the skin. The compounds also help soothe the skin from sunburns, eczema, psoriasis, some sort of swelling or any other body infection [1, 8, 10].

It preserves skin elasticity and decreases the cycle of aging [1, 3, 4].

- 1) Shea butter increases the collagen development found in the skin, thereby preserving the elasticity of the skin. This reduces the appearance of fine lines and wrinkles and thus decreases the ageing process of the skin [4, 15].
- 2) Heals wounds. Shea butter is also followed by soothing qualities, with its moisturizing qualities. The butter is absorbed deep into the skin, which offers cell repair qualities to heal wounds, cuts, and abrasions [1, 2, 8].
- 3) Shea butter also provides health benefits in addition to hair and skin benefits by relaxing muscle aches, relieving joint pain, inflammation and swelling, reducing arthritis pain, lowering cholesterol by using Shea butter

to cook food, helping to cure diarrhea and relieving nasal congestion and inflammation [4].

Abbreviations

NSL	Non-saponifiable Lipid
α	Alpha
δ	Delta
β	Beta
γ	Gamma
RNA	Ribonucleic Acid
DNA	Deoxyribonucleic Acid
C	Cysteine
CVs	Coronavirus
SB	Shea Butter
RSB	Raw Shea Butter
RFSB	Refined Shea Butter
URSB	Ultra-refined Shea Butter
ACS	American Chemical Society
WHO	World Health Organization

Author Contributions

Daodu Oluwafemi Olalekan is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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