



ORIGINAL RESEARCH PAPER

Clinical Science

ALKALINE DIET - AN ANSWER TO MOST MODERN SO CALLED LIFE STYLE DISEASES PART III: EFFECTIVE USAGE OF VISIBLE FAT & WHEY WATER: EXTERNAL APPLICATION: ALKALINE / ACIDIC (SKIN, HAIR AND HAIR SCALP)

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ABSTRACT

I have been speaking a lot about Alkaline Diet, however does it mean that oil cannot be used or whey water needs to be thrown away; they are absolutely waste? Oh no! Everything existing in nature can be put to appropriate usage with tremendous benefits. Hence, here in this article, I am going to present how oil & whey water can be put to use successfully thus promoting optimum health. I may sound like a beautician here in this article, however everything that exists if placed & used at the right position, has an awesome effect. Since, we spoke about usage of oil and milk in the last 2 articles, hence, in this article I am speaking only on external application of these 2 things.

However, point to remember is that external application helps to overcome ONLY THE EXTERNAL STRESS FACTORS, when all the internal factors is being taken care by proper ratio of alkaline: acidic diet.

I shall throw some light on HOW INTERNAL FACTORS OR HORMONES ARE RESPONSIBLE FOR THE PROCESS OF THINNING OF HAIR / BALDING TO SET IN & HOW WE CAN TRY TO OVERCOME / MINIMIZE THEM IN MY NEXT ARTICLE. It ultimately boils down to correct ratio of Alkaline: Acidic diet. Also, the process of Hair Transplant (which will be discussed in my next article) is so much in fashion today; however despite all tests being performed the success ratio is still around 95% and not 100%.

I have a very few cases to prove about the external application of Oil and Whey water. One of the trials done is on me (41 years old) and the others on a couple of friends of mine, however they did not wish their details to be disclosed.

One important point to understand is that pH of oils cannot be measured since pH is measured for only those substances that contain water; however whether the oil is acidic or alkaline is measured with a different method.

In the last 2 articles, I mentioned that Milk & Visible Fat is not good for health, IF WE CONSUME THEM, however when used for external applications, they work wonders. Let us have a look into it, first understand the basics

Skin, Hair and Hair Scalp: a few basics

- Hair consists of tiny shafts which are made up of scales, called cuticles
- Hair and skin are covered with a very thin fluid mixture of oil, salt and water called the mantle & it is naturally slightly acidic. The typical pH balance of Human Scalp and Hair is around 4.5-5.5, which means acidic. This is because these are continuously exposed to bacteria, fungi and other disrupting factors, hence, pH is acidic, which prevents these from getting infected (how nature balances everything)
- pH balance of Skin is about 5.5 (acidic)

WHEN DOES HAIR LOSS OCCUR? There are 3 stages of Hair growth.

Stage 1: Anagen

This is the phase when the hair grows from follicles, and shaft is continuously constructed, increasing the length of hair. This phase can last for 2-6 years.

Stage 2: Catagen

In this phase, hair prepares to go into rest. This stage can last for about 2 weeks.

Stage 3: Telogen

The last phase is the resting phase wherein the hair stops growing and eventually falls out to let a new hair replace it. This phase lasts for about 5-6 weeks.

10-20% of the hair is always in resting at any given time. Hair loss occurs when hair falls out without completing this 3 stage cycle. The hair loss becomes permanent when the follicle stops producing hair, leading to balding.

The Most Important Factors That Influence Hair Growth: hair growth depends on a number of factors and their supplementation and interaction with each other. Here is the list of the factors that can deteriorate hair growth:

- **Old age / Growing age:** This is related to the Hormonal Imbalance due to improper diet
- **Unhealthy diet leading to vitamin, mineral, and protein deficiencies**
- Weak immune system: Again Improper diet
- Hormonal imbalance (improper diet again): Di-hydro-

testosterone or DHT; a more potent form of the male hormone testosterone, is a cause for hair loss in women. The lack of estrogen can also result in improper hair growth as the female hormone stimulates growth. (We shall talk about it in the next article)

- Physical stress on the hair, such as over-styling and usage of excessive hair products (external factors)
- Environmental factors, such as seasonal changes, atmospheric pollutants, and sunlight exposure (external factors)
- Psychological issues like stress, trauma, and anxiety
- Medications like antidepressants and blood thinners (external factors)
- Sudden weight loss (external factors)

So many factors! Here in this article we are currently assuming that we follow a proper ratio of Alkaline: Acidic diet and hair loss is because of external factors, hence concentrating on taking care of the hair with natural hair treatments externally

Again I repeat, about internal factors, we shall talk about the same in the FOLLOWING ARTICLE

LISTEN TO YOUR HAIR!

We are all different, and what works for one person may not necessarily work for another. Just because it's heavily recommended or advertised, doesn't mean that it's the right product for all hair types. It is important to keep in mind that CHANGES DON'T HAPPEN OVERNIGHT.

Before we get into the topic of Oil and Whey, let us consider what happens when anything applied to hair is extremely acidic or alkaline

- If the products used for hair and skin are too alkaline, they will cause the cuticle to open. Water and alkaline-based products cause these scales to open, exposing the interior of hair shafts
- If the products used are too acidic they will cause the cuticle to contract. In both cases, they are damaging the natural pH of hair, hair scalp and skin

Let us try and understand, a few unhealthy conditions as to what could be the pH of the products that we are using or what has the pH of our hair / hair scalp / skin become

- **Flaky / Itchy / eczema / Dry scalp / fungi / Bacteria:** possibility of hair and scalp being highly alkaline and is taking away the natural sebum which fights the bacteria
- **Curly hair:** Cuticles are already partially open, which means

pH is more than required

- **Permanently dyed or relaxed hair:** hair first treated with high alkaline substance to expose and change the cuticle of hair, & then neutralized with a high acidic substance. This process is highly damaging

Ideal pH for hair / hair scalp / skin: Ideally the cuticle needs to be closed to protect it from harmful elements, and help the hair shaft retain moisture

- Slightly acidic pH below 6.0: cuticle layer contracts and tightens. A mild acidic product can help to add shine to the hair and helps to keep the cuticle closed and healthy
- Straight Hair means: pH is being maintained and pH balance products are important to avoid removal of natural sebum, which is creating a natural pH balance

Hence, anything that has a pH balance of between 4 to less than 7 suits the hair & skin both. When we are particularly talking about oil and why in this article, let our first question be, "are oils and whey water alkaline or acidic?" Let us consider with examples

- **Example: Coconut:** Coconut as a fruit itself is alkaline, but when heated, during the manufacturing process, coconut oil can become acidic. And it is not only coconut oil for that matter, any oil in nature has a great potential to become acidic on heating.
 - o This applies to all naturally occurring products, like coffee beans (roasted coffee beans), raw tomatoes (in the form of ketchup)
- Using cleansers such as baking soda (pH of 9) or even just water alone (pH of 7), can be very damaging to the hair with repeated washes, because they are alkaline or neutral

Oils: acidic or basic?

As we have already discussed before, that pH of oil cannot be determined because they do not contain any water element, however their Acid Value called TAN: total acid number can be determined by a different process altogether. TAN is a measurement of acidity that is determined by the amount of potassium hydroxide in milligrams that is needed to neutralize the organic acids in one gram of oil / fat.

As per this process, most of the oils are either neutral or very slightly acidic or alkaline: very slightly means really just very slightly; they all tend to fall in the neutral Acid Value only. However, a point to be noted is that oils in certain conditions do become acidic in nature (proven scientifically)

- Cooked Oil: In the case of refined oils, a high acid value indicates inappropriate or incomplete refining procedures, meaning acidic oils
- Solid Oil (Margarine)
- Oil Exposed to Heat, Light or Air: Oils – Fats rancidify, triglycerides are converted into fatty acids and glycerol, causing an increase in acid number.

It means

- In the first place, if we are not to consume oil, then we know for sure now, how it can be effectively put to use
- Also, for those who still wish to consume oil and as we know that oils should not be re-heated, our oils will not be wasted. Same oil can be filtered in a sieve and used to apply to your hair and skin, or for a non cosmetic usage, regular usage of few drops of oils in hinges of doors can make them run smoothly.
- If by any chance, the oil is not fit for consumption due to other reasons, are still fit for external application, because they match with the pH of our skin and hair and scalp

Effect of oil when applied to hair / hair scalp / skin

- Oil comprising of mainly of smaller medium-chain fatty acids, it penetrates hair more deeply and faster. Example is Coconut Oil
- To prevent the hair & skin from drying out, hair scalp and skin naturally produce oil with slightly acidic pH. Hence, a pH-balanced product, not only helps keep cuticles closed but prevents them from producing too much oil
- It helps to
 - o Oiling is recommended as a blanket solution for everything

from lifeless stresses, damaged hair ends & skin to stress relief. Unhealthy skin and hair loss is directly linked to the pH. Massaging with Oil has "a multi-dimensional effect"

- o Remove Dandruff from hair and dryness from skin. Because of its moisture retaining properties, Oil stays inside the hair & skin instead of evaporating
- o Serves as a base for Hair Coloring: oil penetrates hair deeply and faster it can help the color to be more vibrant and keep it from fading too quickly. Once color has set, shampoo hair with lukewarm water to remove excess oil and colorant.
- o Faster Hair Growth: The vitamins and essential fatty acids naturally found in oil nourish the scalp and help to remove sebum build-up from hair follicles
- o Protect Hair & Skin from Sun Damage: some oils make an excellent all natural sunscreen. Since Oils are loaded with fatty acids, it penetrates the hair & skin more deeply leading to them being more beautiful soft, silky, and shiny
- ✓ Contents like vitamin E, ferulic acid, and fatty acids, as well as antioxidants helps to fight UV rays, supports the keratin in hair – making it stronger, and prevents hair cell damage. Examples can be Coconut oil, Argan Oil, Castor Oil (unusually high ricinoleic acid ratio, helps to balance scalp pH)
- o Acts as a heat protectant, repairs damaged hair and breakage, helps to prevent hair loss, as well as aids in hair growth
- o Some oils like Jojoba oil shows a chemical structure similar to the oil (sebum) that is produced naturally by our scalps
- o Oiling the hair will protect the hair from being stripped of its natural oils during the shampooing process

Caution

- o It is important to wash the hair after oiling; else, the hair follicles in the scalp will become clogged by oil, preventing hair growth.
- o Adding extra oil to the scalp also messes with the natural oil/water balance on the scalp.
- o When we step out in sun with coating of oil, "the sun heats the oil layer, turning heat up in the internal structure of the hair and taking away all the moisture. Practically the hair shaft has been fried internally

Always thoroughly wash the hair with a shampoo whose pH should be neither too acidic nor too alkaline, and not even neutral

Whey: acidic or basic & suitability for Hair / Hair Scalp & Skin:

Whey is the yellowish liquid left over when cottage cheese / paneer is made out of milk at home.

- Whey is of 2 types:
- Sweet whey has a pH ranging from 5.1 to 5.6 and
- Acid whey has a pH ranging from 4.3 - 5.1.

Do the above pH's tell us that they are suitable for external application?

Nutritional facts about homemade whey

- Calcium, thiamin, vitamin B12, vitamin B5, magnesium, potassium, riboflavin, phosphorus, selenium and zinc, pantothenic acid, vitamin b12, thiamine and vitamin b6 and minor amount of niacin as well & additionally full of protein, vitamins, minerals, and enzymes.
- Since, the pH of the whey suits the pH of our skin, hair and hair scalp, it is suitable to be used for both skin and hair scalp

Case Presentation

There are so many Oils that can benefit the hair, but how do we choose amongst them? If I have to sit and analyze each of them separately, probably it will take a decade for me to decide and I may still not be able to come up with the right one.

Hence, I chose a couple of them with their properties scientifically proven and highly positive effects on skin, hair and hair scalp; they have been tested and used regularly over a period of past 9-10 months by me and my friends. Results have been extremely satisfying.

As per practical experience, it says two oils are better than one when we need to apply them externally. If the goodness of one gives you a glossy, healthy hair, the other will strengthen the keratin and help to retain the moisture more and so on, hence multiple benefits of using multiple oils together, however it's the reverse when we consume them, because of varying smoking points.

Some may feel, how strenuous the process is, however, when we prepare it ourselves, we know the exact ingredients that we are using and it goes without any preservatives, hence 100% genuine product to be used for self. As the saying goes "NO GAIN WITHOUT PAIN"

- Coconut (khopra) oil, castor (arandi) oil, sesame (til) oil, mustard (sarson) oil and ghee (all of them are easily available in the Indian market and known to one and all on the benefits that they provide to hair, hair scalp and skin)
- Additionally, we can add the following, (majorly whatever is easily available /affordable)
- Onion, garlic, ginger, carrot, potato
- Rice grain
- Amla powder, moringo powder, indigo powder
- Turmeric if freshly available or powder
- Chia seeds, flax seeds, Methi seeds
- Rose petals /leaves, Hibiscus petals/leaves
- Guava leaves, Curry leaves
- Badams (Almonds), Walnuts
- Lemon
- Dalchini (Cinnamon), lavang (Clove)
- Mix all of them and heat them on a low flame till all the ingredients are charred. What happens is even if some of the ingredients are alkaline in nature, they become acidic, suitable to the pH of skin, hair scalp and hair when heated
- Let the mixture cool and filter the oil

For Hair Application

- Once the oil is filtered, if you wish to use the oil for hair and hair scalp, you can additionally add aloe vera gel, ginseng oil drops, vitamin E oil drops, crushed tablets of biotin & folic acid and start applying to the hair
- Now what do we do with the filterate? Do we throw it? Please don't do that!!! We know everything costs money!!! So why waste even a single portion of the mixture for what you have worked so hard
- You can grind it in a mixture, it turns into a thick oil mixture, which you can still apply in your hair
- For applying the above oil to hair, one can use the inversion method i.e. after massaging the scalp for five minutes, Bend forward so that your head is facing your chest and your hair is falling over your head towards the floor, Stay in this position for 4-5 minutes with caution that Pregnant women and people with heart disease and low/high blood pressure should also not try this inversion method
- Along with oiling my hair with the above formula, after shampooing it, I also use WHEY WATER to wash my hair as a conditioner, I let it remain for about 5 minutes after the shampooing of the hair and then use plain water to remove its strains from the hair. WHEY is considered to be the best heat and humidity-resistant in nature, thus protecting our hair and skin from moisture loss and also the benefit of protein for the hair

For Skin Application

- If it is for skin, in addition to the above, you can add a little camphor as it even relieves pain or tiredness in the body. It can become a massage oil too
- I also use whey water as a toning agent, in facial masks, with good results.

I have seen wonderful results. I have been doing this since September 2017, and my hair grows about an inch every month, with NO UNNECESSARY HAIRFALL. Same results have been observed with the friends who have been doing it, however do not wished to be named; hence, I put only my personal experience here

Some are of the opinion that hair should not be washed everyday; however my experience and thought process says when hair, hair scalp are a part of our entire body, then why not? Just like our skin pores get blocked due to sweat and dirt, don't our pores in the scalp get blocked because of sweat, dirt? So, not washing the hair daily could be a reason for more hair loss? Ask yourself and take your decision

Literature Review & Conclusion

It is to be noted that a food's acid or alkaline-forming tendency in the body has nothing to do with the actual pH of the food itself. For example,

- Lemons are very acidic, outside the body, however after digestion and assimilation they are very alkaline so lemons are alkaline-forming in the body and acidic outside the body.
- Similarly, meat will test alkaline before digestion however it leaves an acidic residue in the body; it goes with nearly all animal products.
- Similarly taking a specific example of olive oil, this is thought to be most appropriate these days by everyone. Olive as a fruit is alkaline in nature, however high value of free acidity in olive oil can be due different factors like (however this is true for all oils, just not olive):
- Production from unhealthy olives
- Bruised olives
- Delayed harvesting and Storage before processing
- Loss of integrity of the olive

Also important to remember is a practical example that I put before you:

- When we water the plants; WE SAY WE SAY WATER THE PLANTS AND NOT OIL THE PLANTS; which means water is for drinking and NOT OIL, Plants will definitely not survive, if we preferred to pour oil in the roots over water; I am sure everyone reading this article will agree
- However if the same oil is applied externally to the leaves of the plants during summers, the leaf remains fresh and moisture is not evaporated

This practical example again reminds us that OIL IS GREAT FOR EXTERNAL APPLICATION & NOT FOR CONSUMPTION

Wait for my next article to understand HOW WE CAN TRY TO AVOID / DELAY / MINIMISE setting in of thinning of hair by understanding the basics. Any doubts on this article or previous articles, you can write to me on dr.vidushi.agrawal@gmail.com

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