

# WHICH TRENDING SKIN-CARE INGREDIENT YIELDS HIGHER SKIN HYDRATION + CLIENT SATISFACTION: COLLAGEN OR OMEGA 3 ?

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## PURPOSE:

Anyone who wants healthy, hydrated skin and is facing the decision of determining what will truly help and nourish, can benefit from my project. The results will either prove or disprove the supposed benefits of two popular and trending ingredients in skincare products.

## QUESTION:

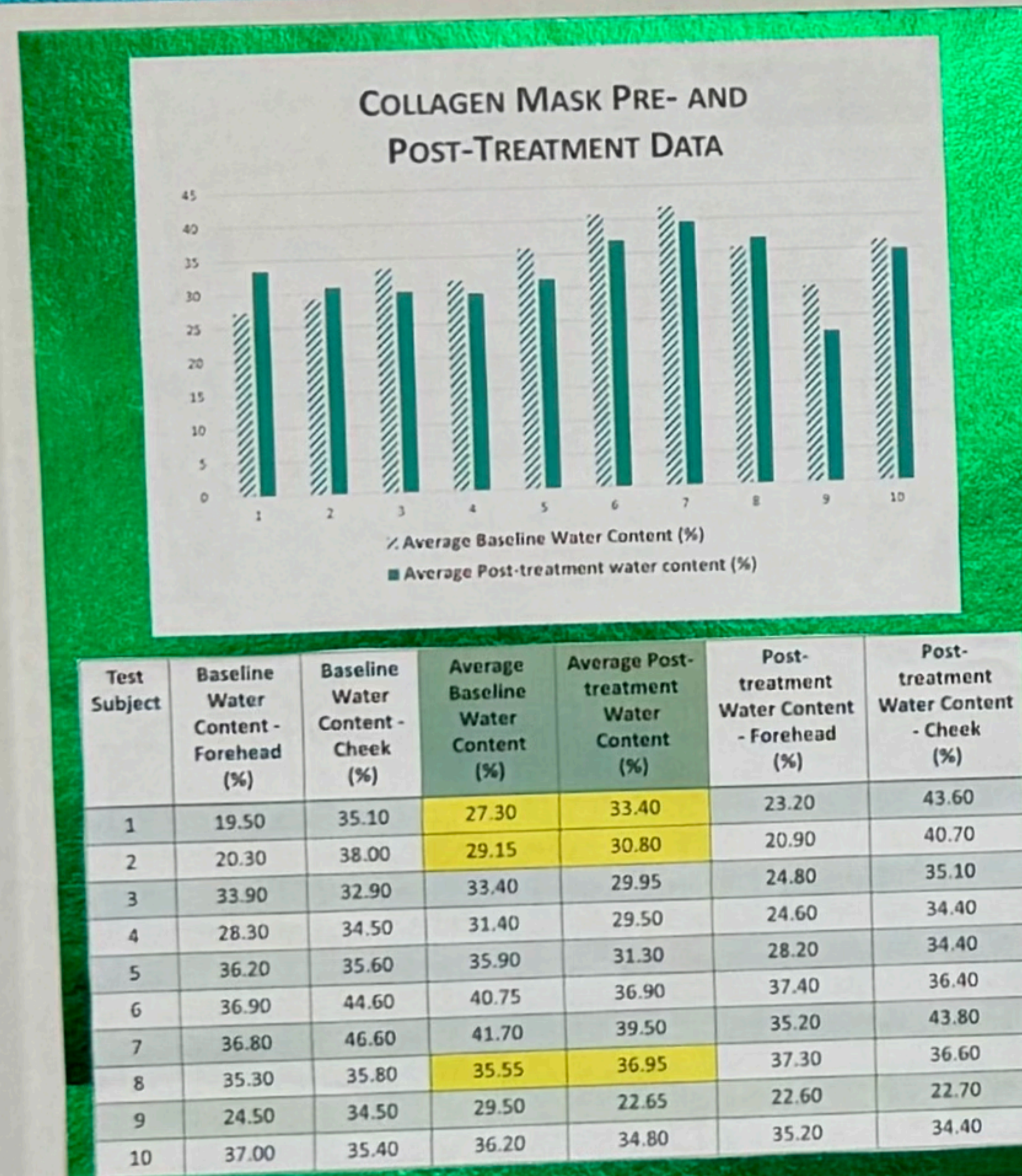
Between Omega 3 and collagen, which is more beneficial for skin hydration when used as a topical application such as a face mask?

## HYPOTHESIS:

If the hydration benefits of a collagen mask and one made from an omega 3 source (flax seed) are compared, then the omega 3 mask will be more hydrating for the skin because according to dermatologists, collagen molecules will only impact the surface layer of the skin due to their large size which prevents them from penetrating into the skin's deeper layer where collagen is stored. On the other hand, Omega 3 will have lasting benefits by absorbing more effectively across the skin layers.

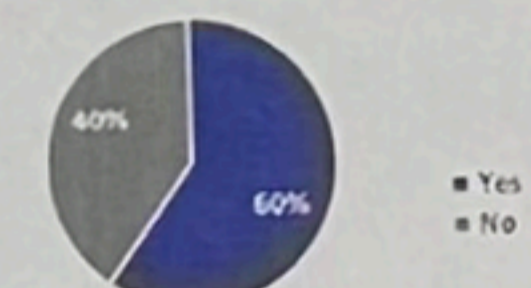
## PROCEDURES:

- To begin making the flaxseed mask, in a small, clean saucepan, bring 1 cup of water to a boil.
- Add 2 tablespoons of ground flaxseed to the water, then lower the temperature and simmer for 7 minutes (stirring occasionally) to create a gel-like consistency.
- Turn off the heat on the stove and let the mixture begin to cool. Your flaxseed mask is now ready to use!
- To begin making the collagen mask, combine 1.5 tablespoons of hot water with 5 tablespoons of collagen in a small, clean bowl. Hooray! You completed this mixture thoroughly until a thick paste is formed.
- Mix thoroughly until a thick paste is formed. Hooray! You completed this mixture thoroughly until a thick paste is formed.
- Now it's time to start testing your subjects. Use a Neutrogena facial cleansing wipe to clean the forehead and cheeks.
- Rinse face with warm water to remove any residue from the cleansing wipes and pat dry using a clean face towel.
- Wait 3 minutes to allow the skin to fully dry.
- Take baseline measurements of the skin's water content in four areas: right side of forehead, left side of forehead, right side of cheek, and left side of cheek.
- Using a mask brush, apply the collagen mask to the right side of the face and apply the flaxseed mask to the left side of the face.
- Leave the masks on for 15 minutes.
- Repeat steps 8, and 9.
- Have the subject complete a post treatment survey.

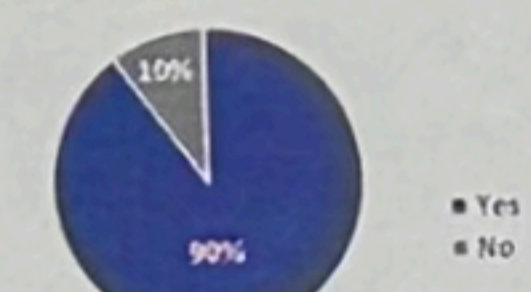


## POST-TREATMENT SURVEY RESPONSES:

Q.1) Does the right side of your face feel hydrated (more soothed and moisturized)?



Q.2) Does the left side of your face feel hydrated (more soothed and moisturized)?



Q.3) Do you feel that the treatment used on the right side of your face improved your skin's appearance?



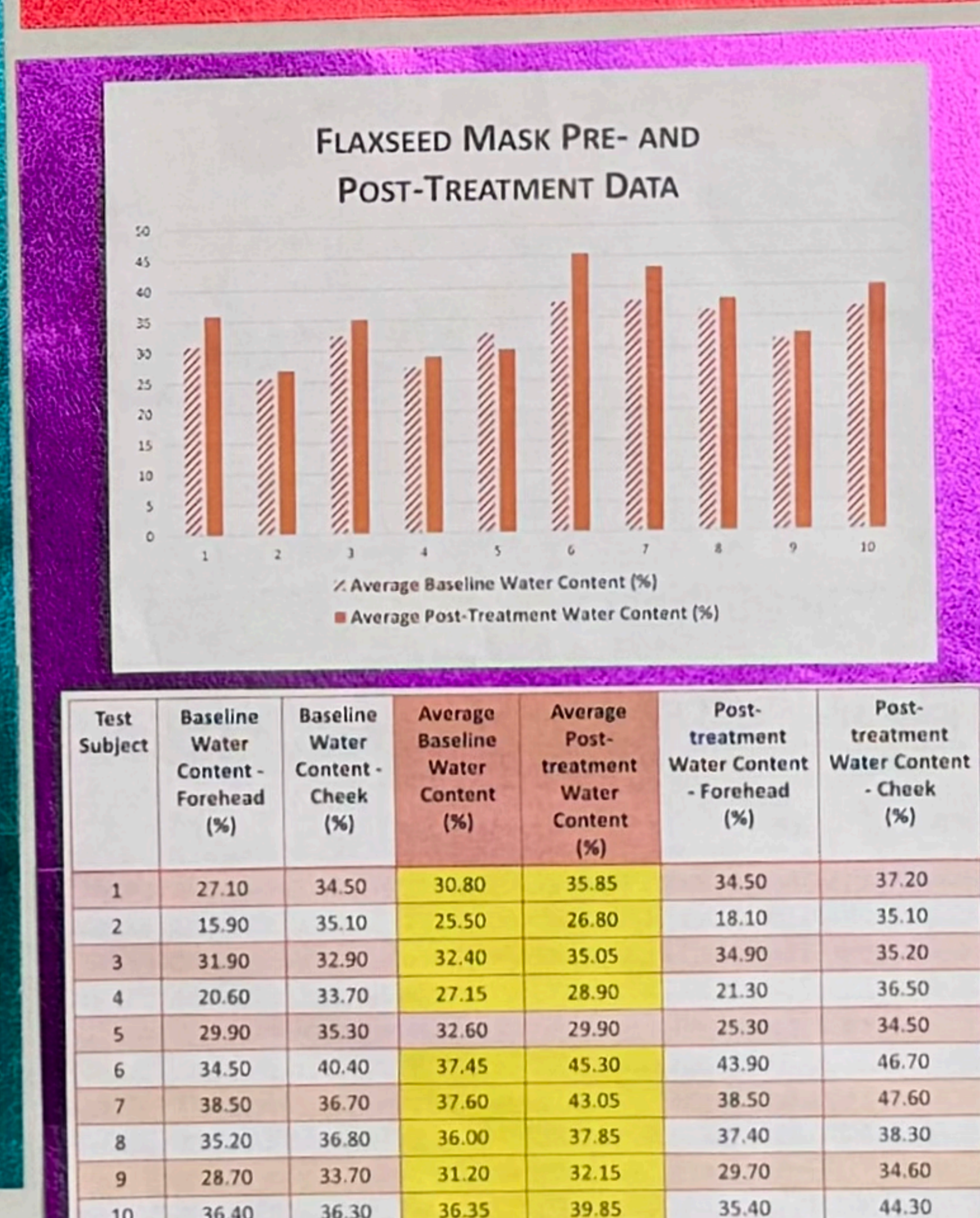
Q.4) Do you feel that the treatment used on the left side of your face improved your skin's appearance?



Q.5) If you were to repeat treatment, would you pick the mask used on the right side of your face or the left?



INDEPENDENT VARIABLE	DEPENDENT VARIABLE	CONTROL
The type of mask (either collagen or flaxseed).	Skin's hydration (water content).	<ul style="list-style-type: none"> <li>Time between cleansing a subject's face and getting measurements with the skin analyzer.</li> <li>Mask application time.</li> <li>Both masks are made using only one additional ingredient which is water.</li> <li>Measurements were always taken on the same part of the subject's face before and after treatment.</li> </ul>



## RESULTS:

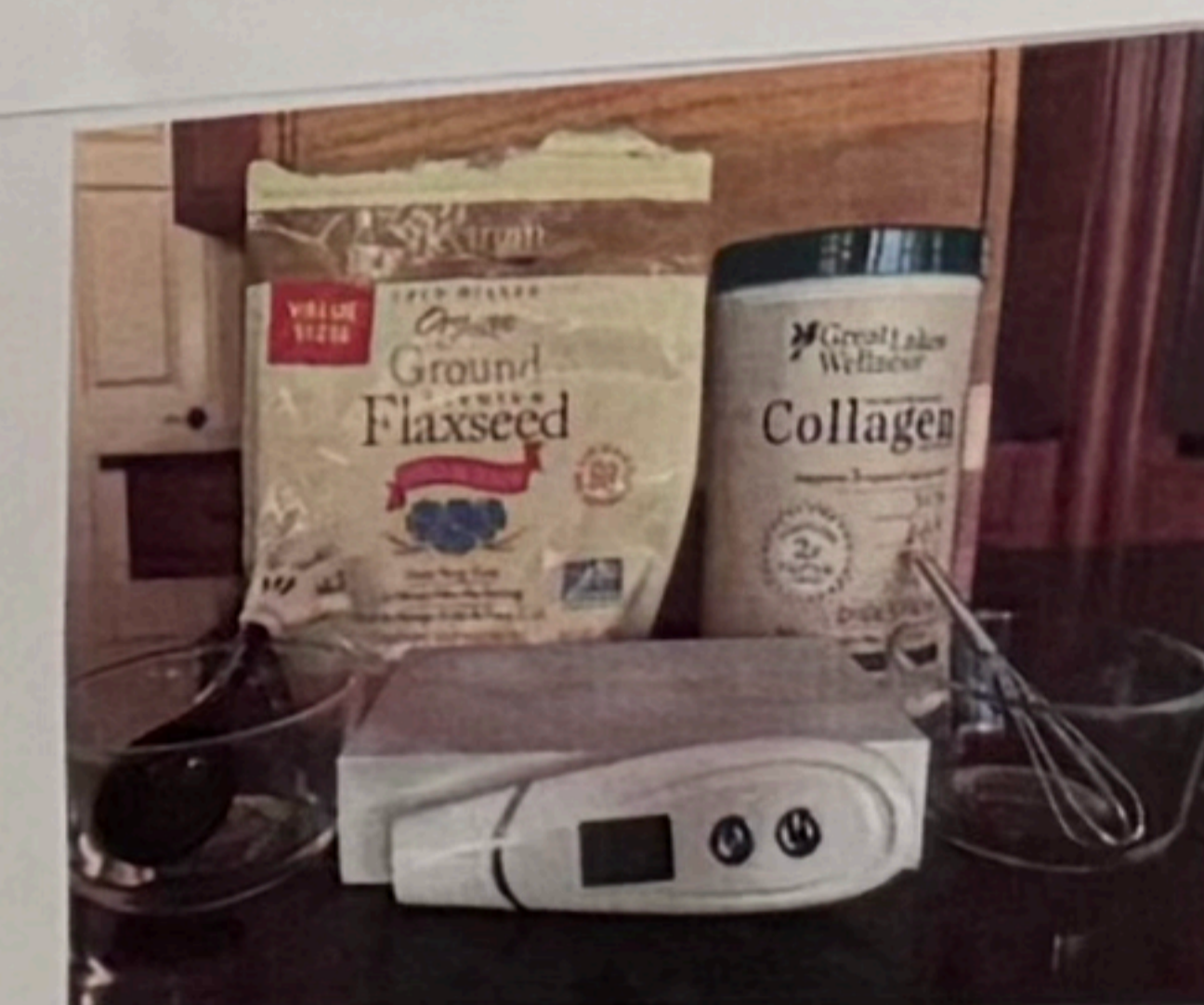
When average hydration levels for the subject's face (calculated by taking the average of the forehead and cheek readings) were compared before and after the application of the collagen mask, it was found that 30% of the subjects had improved hydration after using the collagen mask. The remaining 70% of subjects showed reduced hydration with use of the collagen mask. Despite this, 60% of the subjects felt that the mask made their skin feel more hydrated and 100% reported improved appearance of their skin.

The average hydration levels for the subject's face, when compared before and after the application of the flaxseed mask, were found to be improved for 90% of the subjects. Only one subject had reduced hydration. 90% of the subjects reported that their skin felt more hydrated while 80% felt that their skin's appearance was improved by using the mask.

When subjects were asked which mask they would choose if treatment was to be repeated, it was evenly split: 50% chose collagen and the remaining 50% chose flaxseed.

## MATERIALS:

- Portable skin hydration analyzer
- Anthony's organic ground flaxseeds
- Great Lakes bovine collagen peptides
- Filtered water
- Neutrogena facial cleansing wipes
- Measuring cup
- Tablespoon
- Mask brush



## CONCLUSIONS:

- To conclude, the effect of the collagen mask on skin hydration was not positive for 70% of the participants. This is because collagen molecules are too large to penetrate the skin's barrier and hence are unable to reach the deeper layers of the skin that store collagen. In fact, the skin analyzer readings showed slightly reduced water content in the skin. This finding can be explained by the well-known fact that repeated washing or cleansing of the skin in the absence of a hydrating agent can cause the skin to become less hydrated by stripping away moisture from escaping.
- When asked for their feedback regarding whether their skin felt hydrated and soothed, subjects were somewhat split in terms of whether they found the mask to have made a positive difference in how their skin felt. However, all participants found the mask to have improved their skin's appearance. This was because collagen has been found to shrink pore size which in turn gives the appearance of youthful and tighter skin, which tends to be a much-desired aspect.
- As for the flaxseed mask, the skin analyzer readings showed that 90% of the subjects benefited from increased skin hydration. This is due to the high water-binding capacity in flaxseed mucilage that enables it to provide deep hydration and long lasting moisturization. Studies have shown that health through increasing hydration.
- All but one subject reported that they felt that the flaxseed mask improved their skin hydration, most likely for the same reason. 80% of the participants believed that their skin looked better after using the flaxseed mask, because it is found that the gel-like consistency of its mucilage can have a temporary tightening effect on the skin.
- The last question on the survey asked the participants about their subjective preference regarding which mask they would use again if they were given the choice. Their answers yielded an even distribution. This may be due to people having different preferences for what benefits they prioritize: skin that feels more soothed and hydrated or skin that appears youthful and smoother. It can be inferred that half of the participants who chose the collagen mask desired a facial treatment that enhanced their skin's appearance while the other half that chose the flaxseed mask most likely placed a higher value on the soothed and hydrated sensation of the skin.
- While both ingredients have their benefits, the flaxseed mask is more effective for skin hydration according to both the results of the skin analyzer and the survey results.