

ARTICLE INFO

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Article history

| | |
|------------------|------------|
| Received | 03-06-2024 |
| Revisited | 05-09-2024 |
| Accepted | 13-09-2024 |
| Available online | 30-09-2024 |

Please cite this article in APA 7th edition style as:

Soekanto, A., Tania, P. O. A., Agnez, A., & Hardiyono. (2024). Effectiveness of the Combination of Facial Acupressure and Honey on Facial Skin Moisture. *Jurnal Ilmiah Kedokteran Wijaya Kusuma*, 13(2), 125-134

<https://dx.doi.org/10.30742/jikw.v13i2.3783>

Effectiveness of the Combination of Facial Acupressure and Honey on Facial Skin Moisture

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Abstract

Background: Facial skin is the most sensitive part, so it is important to take care of it. Facial skin care is a treatment to keep facial skin elastic and maintain facial skin moisture. Facial acupressure is a method of treatment that begins with massaging the meridian points so that blood flow becomes smooth and facial muscles feel more relaxed. Using honey is a facial skin care method that is made into a mask. **Objective:** The research aims to determine the effectiveness of the combination of facial acupressure and honey on facial skin moisture. **Methods:** This research is an analytical experimental study, with a sample of 30 women aged 40 - 50 years. In the first treatment, a moisture test was carried out, followed by the second treatment, the moisture test was measured for the facial acupressure and after the third treatment, the combination of the facial acupressure with a honey mask was subjected to a moisture test. The research was carried out twice a week for 4 weeks for a total of 8 times. The research was carried out in April – May 2024 at the Wijaya Surabaya clinic & in a doctor's practice and used a Skin Moisture Analyzer as a measuring tool to measure skin moisture. Using statistical analysis with the Mann-Whitney test ($\alpha= 0.05$) with a p-value of 0.000. **Result:** The results of the third treatment showed an increase in facial skin moisture until it reached 93.4%, including moist skin and 6.6%, which was considered normal skin criteria. **Conclusion:** It has been proven that the combination of facial acupressure and honey is effective on facial skin moisture, experiencing very significant changes in humidity starting from the first, second and third treatments.

Keywords: Facial acupressure, honey, skin moisture

Original Research Article

INTRODUCTION

Facial skin is a sensitive part of the human body compared to other parts, so it requires special care and top priority because the layer of facial skin is anatomically thinner compared to other parts of the body, such as the skin on the palms of the hands and soles of the feet (Labellapansa et al., 2018). Skin problems increase with age, so skin care needs to be done to maintain the elasticity and moisture of facial skin (As'ary et al., 2022; Neighbor et al., 2022). Facial skin care is important skincare so it must be prioritized to keep facial skin healthy. An attractive appearance in women can be seen in healthy and bright white skin (Kumarahadi et al., 2020). Facial skincare that is done correctly and according to your skin type will result in skin that looks healthy and bright. Anatomically, the skin is the outermost part of the human body, wrapped in skin. The skin has the function of protecting the body from

exposure to sunlight which contains ultraviolet rays that can affect the surface of the skin. Apart from that, the important role of the skin is also as a sense of touch, preventing dehydration, regulating body temperature, and giving aesthetics to a person's appearance so that it looks attractive, especially on facial skin (As'ary et al., 2022; Rahmawaty, 2020; Wulandari, 2019). The three layers of skin consist of the outer layer called the epidermis, the middle layer called the dermis, and the inner layer called the hypodermis. There are layers of the epidermis, namely from the bottom upwards, starting with the basal stratum, stratum spinosum, stratum granulosum, stratum lucidum, and at the outermost stratum corneum there are protein lipids and water which function to maintain water release as a skin barrier. The dermis layer is rich in blood vessels, nervous tissue, melanocyte cells, mast cells, macrophage cells, lymphocyte cells and elastin and collagen fibers, fat glands and sweat glands, sensory receptors for mechanoreceptors and thermoreceptors, nociceptors, mechanoreceptors. The hypodermis layer consists of lipid cells associated with elastic fibers and collagen fibers (Neighbor et al., 2022; Yuniarsih et al., 2021). Aging will change the morphology of all anatomical components, including facial skin which affects all layers of the skin. Facial skin is the part that is exposed to more sunlight than other areas (Kim et al., 2019). Exposure to the surrounding environment will provide interactions that can disrupt the balance of water levels in the skin and have the effect of disrupting skin moisture. Exposure such as temperature, air humidity, and ultraviolet light will affect the water content in the skin which will affect skin moisture. Low skin moisture levels cause the skin to become dry, whereas well-maintained skin moisture will make the skin smoother (As'ary et al., 2022; Wulandari, 2019).

It is necessary to use natural ingredients that are around us which can be useful for healthy facial skin, such as honey. Honey is produced by honey bees in the form of a thick liquid derived from flower nectar. Honey is often used to beautify facial skin and soften facial skin. The use of honey for facial skin care is made in the form of masks, soap, shampoo, body scrubs, and lotions because honey is a natural ingredient intended to moisturize facial skin. The antioxidant content in honey contains lots of vitamins C, K, B6, B2, B1, flavonoids, amino acids, and alpha hydrolytic acid which are useful for providing moisture and elasticity to the skin. Using a honey mask is an alternative option for providing natural nutrition to the face which can be used to treat and restore facial skin disorders. Honey is a natural ingredient that can soften and beautify the skin. The antioxidant and vitamin C content in honey can have the effect of tightening the skin, shrinking pores on the skin, and making facial skin firm (Budiono et al., 2022; Sinulingga et al., 2018; Tanggasari & Septianingsih, 2023).

Facial acupressure is a beauty treatment method that is carried out by massaging the facial area with emphasis on certain meridian points which are useful for tightening facial muscles, removing wrinkles on the face, making the face bright, and relaxing the facial muscles. This face acupressure begins by massaging the forehead, cheeks, and then the neck and shoulders. Massage for 5-10 minutes which is carried out according to the anatomical structure of the facial region and added emphasis on the meridian points will provide smooth blood flow and smooth facial skin, look more youthful, and facial muscles feel more relaxed (Pardede, 2022; Surtiningsih et al., 2022). Face acupressure through gentle massage on the face has the effect of relaxing the facial muscles and preventing the reduction of wrinkles on the face (NWO, Ceria et al., 2021; Soekanto et al., 2022). If facial acupressure is done regularly, the dead skin cells will be removed from the exfoliation process on the facial skin, making the skin healthy and bright (Surtiningsih et al., 2022). In previous research on the effectiveness of facial acupuncture and acupressure on facial acupressure, the muscle appeared more supple and elastic with facial acupuncture therapy (Soekanto et al., 2022). By continuing this research, the aim is to determine the effectiveness of the combination of facial acupressure and honey, using a honey mask on facial skin moisture. The importance of this research is by combining facial acupressure and honey mask, which is a natural nutritional ingredient that can be used to provide treatment and recovery for facial skin disorders and is efficacious in smoothing and beautifying facial skin and the novelty in this research is by combining facial acupressure and honey on moisturize the facial skin and assess its effectiveness by looking at any changes in moisture starting from before facial acupressure, after facial acupressure and after being given a combination of facial acupressure and Haney's clover honey mask.

MATERIALS AND METHODS

This research has been recommended as ethically sound with number 84/SLE/FK/2024, using a non-parametric analytical experimental research design, with a research sample of 30 respondents, conducting the research in April – May 2024 at the Wijaya Surabaya clinic and in a doctor's practice. This research method uses Mann-Whitney and IBM SPSS statistical software, then continues with the Games-Howell difference test ($\alpha= 0.05$) to see the differences in three treatments, with treatment details as follows: first treatment, no treatment at all then a moisture test was carried out, the second treatment was given a facial acupressure treatment and continued with a moisture test and the third treatment was given a combination of facial acupressure and a clover honey mask and a moisture test was carried out (Adiputra et al., 2021; Fadli, 2021; Notoatmodjo, 2012). The inclusion criteria for this study were women aged 40 - 50 years who had no history of allergies, were healthy and had no facial abnormalities or defects, had never had facial treatment, were willing not to use moisturizer on the face being treated, and were willing to take part in this study until completion, and The exclusion criteria for this study were women having a history of allergies to honey (Astuti et al., 2018; Masluhiya AF & Fidiastuti, 2019; Soekanto et al., 2022). Each respondent received treatment before facial acupressure, giving facial acupressure and a combination of facial acupressure with honey. In this study, treatment was carried out twice a week and carried out for 4 weeks, a total of 8 treatments were carried out. Data were taken from photos before treatment and photos after treatment, and facial skin moisture was measured using a *Skin Moisture Analyzer*.

RESULTS

The results for correspondents who received treatment are seen in the following picture:

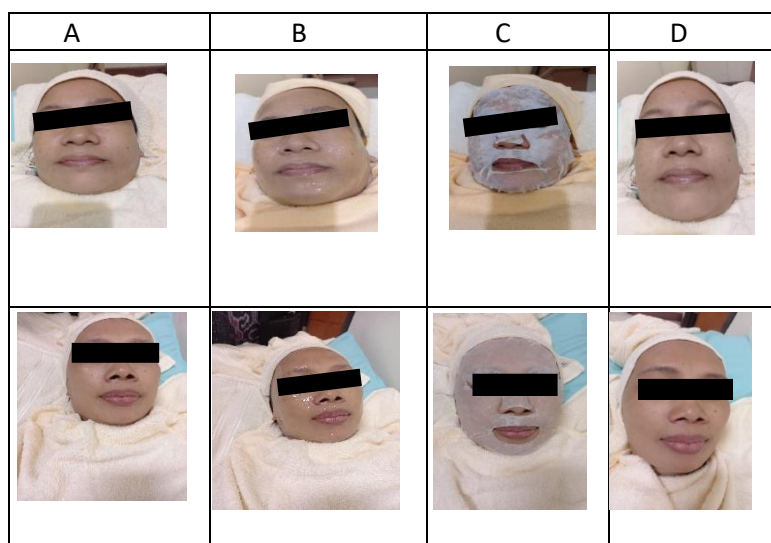


Figure 1. Corresponds to (A) before treatment, (B) after facial acupressure (C) using a combination of facial acupressure and clover honey, (D) after treatment (source: Primary Data).

From Figure 1 above, the correspondent in (A) before the treatment only received a moisture test on the face on the left cheek, all moisture tests were carried out on the face on the left cheek, and the data was recorded, then continued in part (B) the face acupressure treatment was carried out during 15 minutes and after the facial acupressure, a moisture test is carried out, followed by treatment (C) after the facial acupressure use clover honey, honey mask evenly on the face, use a compressor mask and leave for 30 minutes, then a moisture test is carried out and continue with (D) after the acupressure combination treatment. face and honey mask are finished then a moisture test is carried out. Each of the 30 correspondents received this treatment and it was carried out 2 to 8 times a week. Then processing of this research data was carried out.

The facial acupressure performed on the correspondent has steps for the acupressure face in the following order: First, clean the face with cleansing soap, cleansing followed by rinsing with clean water so that the dirt stuck to the pores of the face will be removed, the second step, is to apply pressure on the face at each point for 1 – 2 minutes and done repeatedly for up to 15 minutes according to the acupuncture points, pressure is applied with the first location of the piercing on the forehead around the eyebrows, and then the second part in the area around the eyes and cheeks, nose and around the ears, the third part around the upper jaw and the fourth around the lower jaw, and next to the edge of the lower ear. After completing the piercing, continue with clover honey which is spread thinly evenly on the face and continued by attaching the compressor mask on top of the honey smear to form a honey mask (NWO, Ceria et al., 2021; Smith et al., 2020; von Arx et al., 2018). The piercing area can be seen in Figure 2 below.

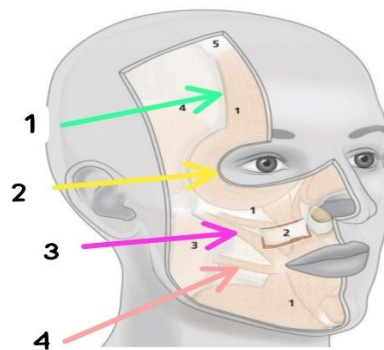


Figure 2. Face acupressure area (1) Frontalis; (2) Pre-orbitalis; (3) Upper mandible (4) Lower mandible (Smith et al., 2020; von Arx et al., 2018)

In Figure 2, the area where the piercing is carried out is in the area (1) the frontalis of the forehead which is directed superiorly, (2) the pre-orbital area around the eye where the piercing is directed laterally and circularly towards the edge of the zygomaticum, (3) the upper mandible continues towards the right maxilla and left maxilla circularly reach the edge of the inferior zygomatic, (4) the lower mandible continues towards the inferior edge of the mandible and continues towards the edge of the lower ear. This piercing, if done regularly, will provide elasticity to the facial muscles and will have the effect of eliminating wrinkles in the facial area (Barrett, 2005; Donoyama et al., 2012; Smith et al., 2020; Yun et al., 2013).

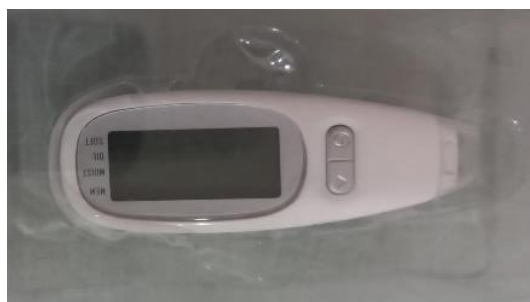


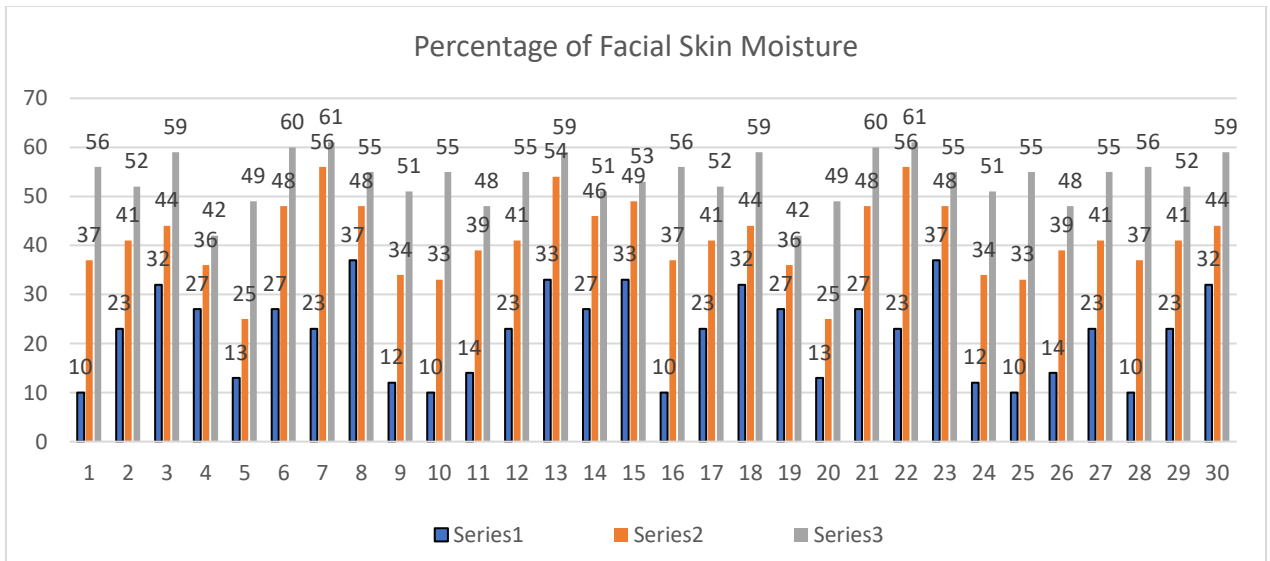
Figure 3. Tool for measuring skin moisture (*Skin Moisture Analyzer*)

In figure 3 *Skin Moisture Analyzer* is a tool for measuring skin moisture with humidity values entering 3 criteria, the criteria for dry skin are shown on a scale of 0 – 35%, normal skin on a scale of 36 – 45%, and moist skin on a scale of 46 – 100%. How to use: Apply directly to facial skin and the moisture value will be visible on the skin analyzer after 4-5 seconds.

Table 1. Measurement of facial skin moisture

| Respondent | | Skin Moisture | | |
|------------|-----|-----------------------------|---|--|
| Number | Age | Before face acupressure (%) | After facial acupressure (%) | Combination of facial acupressure and honey mask (%) |
| 1 | 40 | 10 | 37 | 56 |
| 2 | 43 | 23 | 41 | 52 |
| 3 | 40 | 32 | 44 | 59 |
| 4 | 45 | 27 | 36 | 42 |
| 5 | 42 | 13 | 25 | 49 |
| 6 | 40 | 27 | 48 | 60 |
| 7 | 48 | 23 | 56 | 61 |
| 8 | 47 | 37 | 48 | 55 |
| 9 | 45 | 12 | 34 | 51 |
| 10 | 44 | 10 | 33 | 55 |
| 11 | 46 | 14 | 39 | 48 |
| 12 | 41 | 23 | 41 | 55 |
| 13 | 43 | 33 | 54 | 59 |
| 14 | 42 | 27 | 46 | 51 |
| 15 | 42 | 33 | 49 | 53 |
| 16 | 45 | 10 | 37 | 56 |
| 17 | 47 | 23 | 41 | 52 |
| 18 | 43 | 32 | 44 | 59 |
| 19 | 40 | 27 | 36 | 42 |
| 20 | 47 | 13 | 25 | 49 |
| 21 | 48 | 27 | 48 | 60 |
| 22 | 41 | 23 | 56 | 61 |
| 23 | 44 | 37 | 48 | 55 |
| 24 | 46 | 12 | 34 | 51 |
| 25 | 42 | 10 | 33 | 55 |
| 26 | 48 | 14 | 39 | 48 |
| 27 | 43 | 23 | 41 | 55 |
| 28 | 45 | 10 | 37 | 56 |
| 29 | 45 | 23 | 41 | 52 |
| 30 | 47 | 32 | 44 | 59 |
| Procentase | | 100% Dry skin | 20% dry skin, 50% normal skin, 30% Moist Skin | 6.6% normal skin, 93.4% moist skin |

In Table 1, the resulting scale for measuring skin moisture uses parameters, namely dry skin on a scale of 0 – 35%, secondly normal skin on a scale of 36 – 45%, and thirdly moist skin on a scale of 46 – 100%, using the Skin Moisture Analyzer tool. A total of 30 correspondents each received the same three treatments, in treatment one (before facial acupressure) the lowest value of facial moisture was 10% and the highest was 33%, this included dry skin criteria, then in the second treatment, namely after facial acupressure, the humidity increased by the lowest result was 25% (normal skin) and the highest was 56% (including moist skin criteria), even after receiving the third treatment the lowest moisture result was 42% (including normal skin criteria) and the highest was 61% (including moist skin criteria). The higher the moisture content on the facial skin, the smoother the facial skin will be, and the moisture of the facial skin will be maintained (Herawan et al., 2022; Jap et al., 2023; Virgita & Krisnawati, 2014). Percentage results can be seen in Graph 3 below.



Description Series 1, 2, 3 = Treatment 1, 2, 3

Figure 3. Graph of differences in facial skin moisture between treatments

Table 2. Results of measuring facial skin moisture in total treatment

| Descriptive Statistics | | | | | |
|------------------------|----|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Skin moisture | 90 | 10.00 | 61.00 | 39.0111 | 15.09780 |
| Treatment | 90 | 1.00 | 3.00 | 2.0000 | .82107 |
| Valid N (listwise) | 90 | | | | |

The total number of samples was 90 samples, the lowest skin moisture value was 10% while the highest was 61%, with an average moisture value of 39%.

Table 3 results of the effect of treatment

| Test Statistics ^a | |
|------------------------------|---------------|
| | Skin moisture |
| Mann-Whitney U | .000 |
| Wilcoxon W | 465.000 |
| Z | -6.668 |
| Asymp. Sig. (2-tailed) | .000 |

a. Grouping Variables: Treatment

The effect of giving treatment to the three groups obtained a p-value of 0.000 ($p < 0.05$), which means there was an effect of giving treatment on skin moisture. To see the differences between treatment groups, you can see the Games-Howell test in Table 4.

In Table 4, the measurement results show differences in treatment between the first treatment which was given no treatment, the second treatment which was given only facial acupressure treatment, and the third treatment which was given facial acupressure as well as honey (clover honey) and then analyzed using the Games-Howell difference test. The first treatment showed different skin moisture from the second treatment and the third treatment with a p-value of 0.000 ($p < 0.05$). Meanwhile, the second treatment compared to the third treatment showed a difference in skin moisture levels, namely with a p-value of 0.000. The third treatment, namely a combination of facial acupressure and honey (clover honey), showed a significantly higher level of moisture compared to the second group that received facial acupressure alone or the first group that was not given treatment.

Table 4. Test of Differences between Groups with Games-Howell

Multiple Comparisons

Dependent Variable: Kelembapan kulit

Games-Howell

| (I) treatment | (J) treatment | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|--------------------------------|--------------------------------------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | lower Bound | Upper Bound |
| (1) 1) not given facial | acupressure treatment | -19.16667* | 2.17302 | .000 | -24.3960 | -13.9373 |
| | facial acupressure + honey treatment | -31.86667* | 1.87894 | .000 | -36.4183 | -27.3151 |
| (2) given facial | Not given treatment | 19.16667* | 2.17302 | .000 | 13.9373 | 24.3960 |
| | facial acupressure + honey treatment | -12.70000* | 1.69910 | .000 | -16.8052 | -8.5948 |
| (3) facial acupressure + honey | Not given treatment | 31.86667* | 1.87894 | .000 | 27.3151 | 36.4183 |
| | facial acupressure treatment | 12.70000* | 1.69910 | .000 | 8.5948 | 16.8052 |

*. The mean difference is significant at the 0.05 level.

DISCUSSION

The results of the research measured humidity which was carried out 3 times, all measurements were carried out on the left cheek, on 30 research samples. The first measurement was carried out on 30 correspondents who did not receive treatment, only moisture was measured. The results of 30 facial skin moisture measurements on each of these correspondents were found to be 100%, including the criteria for dry skin with an average humidity of 22%, with results between 10% -37%. The second measurement, after facial acupressure treatment for 15 minutes, facial skin moisture was measured, the results showed that 6 people had dry skin criteria (20%), 15 people had normal skin criteria (50%) and 9 people had moist skin criteria (30%). In the third treatment measurement, namely after receiving a combination of facial acupressure and Clover honey, the results were 6.6% including normal skin criteria, namely 2 people and 93.4% including moist skin criteria, namely 28 people.

In the first treatment, the first time compared with the second treatment until after receiving 8 treatments, the results of changes in facial skin moisture which were previously included in the criteria for dry skin increased to normal skin after getting facial acupressure, this shows that facial acupressure can effectively increase skin moisture. face. Facial acupressure that is done regularly will stimulate blood circulation in the dermis area and regenerate skin cells to form collagen which provides relaxation to muscle tension and provides freshness conditions in the facial muscles because it stimulates the flow of chi in the meridian area which is connected to blood circulation points(Masluhiya AF & Fidiastuti, 2019; Pardede, 2022; Surtiningsih et al., 2022; Virgita & Krisnawati, 2014).

The results of the third treatment, the original correspondent who had the lowest moisture percentage, namely 25%, after receiving the first combination of facial acupressure and honey, experienced an increase in skin moisture to 49%. Likewise, the correspondent with the highest humidity the second time, namely 56%, after the third time also experienced an increase in humidity to 61%. These results show that skin moisture is influenced by the water content in the stratum corneum, the presence of fluid that flows in and out of the stratum corneum. There are endogenous fluids in the stratum corneum and exogenous fluids. Endogenous fluid occurs due to a diffusion process

and the secretions of sweat glands in the dermis diffuse to the surface of the epidermis. Exogenous fluids occur due to high humidity obtained from the surrounding environment. Skin moisture is influenced by the presence of keratin cell bonds in the stratum corneum (Azizza & Kustianti, 2020; Imani, 2022; Imasari & Emasari, 2022; Kevin et al., 2018).

Keratin cells bind water content and form bonds with elastin fibers which influence skin moisture. The more water that is bound, the more moisture the skin will maintain. Dry skin will form deep cracks due to the lack of binding of keratin cells with water, the skin will look dry and cracked. Using a mask on facial skin functions to improve circulation and oxygenation of the skin and the mask removes dead skin cells, smoothing the skin and shrinking facial pores so that the face becomes smoother. Honey has a function as a natural moisturizer, honey is produced by bees which synthesize flower nectar which is rich in flavonoids, amino acids, alpha hydroxy acid, vitamin K, C, vitamins B1, B2, B6 which have the effect of making the skin supple, elastic and increasing moisture. on the skin (Khan et al., 2018; Rahayu and Mutimatul, 2013).

In this study, correspondents after receiving the second treatment and continuing to the third treatment, after wearing a honey mask for 30 minutes, the correspondents were shown to experience changes in increased moisture in their facial skin until 93.4% of respondents had moist facial skin. The overall results in this study in treatment one continued with the second treatment and finally the third treatment gave very significant results, proven to show statistical test results with a p value of 0.000. Using a honey mask has been proven to cause facial skin to maintain more moisture. Maintained moisture will result in healthier and smoother looking skin.

CONCLUSION

The results of research on the effectiveness of the combination of facial acupressure and honey, the use of a honey mask on the moisture of facial skin, proved that after carrying out facial acupressure and using a honey mask the results experienced a very significant increase in moisture up to 93.4%, which was included in the criteria for moist skin, whereas previously in the first treatment 100% corresponded all of them entered the dry skin criteria, continued after receiving the second treatment (given facial acupressure) the results changed the humidity to 20% (including dry skin criteria), 50% (normal skin criteria) and 30% (moist skin criteria), and finally 93.4% was obtained. is a criterion for moist skin.

CONFLICT OF INTEREST

There is no conflict of interest in this research.

ACKNOWLEDGEMENTS

Thank you to LPPM UWKS as the funder of this research and the respondents who agreed to support this research.

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