



Community Service Activities – Education And Screening For Damage Of Facial Skin Hydration Caused By Sun Exposure In Adolescent Boys

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Article History:

Received: 22 Februari 2023

Revised: 26 Maret 2023

Accepted: 30 April 2023

Keywords: Hydration, UV Damage; Sun Exposure, Education, Screening

Abstract: *Early counseling and screening activities regarding skin hydration due to sun exposure are community service efforts aimed at increasing male students' understanding of the importance of maintaining skin hydration and protection against sun exposure. This activity is carried out through an educative and practical approach, by combining counseling, demonstrations, and early screening. The results of this activity showed an increase in male students' understanding of the importance of skin hydration and protection against sun exposure. They are becoming more aware of the need to take care of their skin regularly, use sunscreen, and keep their skin moisturised. Positive behavioral changes were seen in the boys' efforts to maintain healthy skin. Counseling and early screening activities regarding skin hydration due to sun exposure provide significant benefits in increasing understanding, changing behavior, and maintaining healthy skin for male students. This activity is an important effort in*

increasing awareness and protection of skin health among male students.

INTRODUCTION

Skin hydration refers to the skin's ability to maintain proper moisture levels. Well-hydrated skin has adequate water content in its top layer, which helps maintain skin elasticity, softness and overall health.¹

Sun exposure can have a significant impact on skin hydration. Sunlight consists of two main types of rays that can affect the skin, namely ultraviolet A (UVA) rays and ultraviolet B (UVB) rays. Both of these rays can cause skin dehydration if not properly protected. UVA rays can penetrate the deeper layers of the skin and cause breakdown of collagen and elastin, which leads to premature aging and increased wrinkles. Prolonged exposure to UVA rays can also cause skin drying and loss of skin's natural moisture, thereby reducing the skin's ability to retain hydration. Meanwhile, UVB rays are the main cause of sunburn. Exposure to UVB rays can damage the top layer of the skin and disrupt the skin's barrier function, leading to water loss from the skin. Sunburnt skin loses moisture significantly, leaving it feeling dry, tight and irritated.²

Skin hydration is important for everyone, including male students. Good skin hydration helps maintain skin health, retains moisture, and protects the skin from environmental damage. Sun exposure also has a significant impact on the skin, including in male students. Boys are often involved in more intensive outdoor activities, such as sports, physical activities or playing in the sun. Excessive sun exposure can cause several skin problems such as:³

1. Sunburn (sunburned skin): Exposure to UVB rays can cause sunburn on the skin, which is usually characterized by skin that is red, sore, and feels hot. Boys with sunburn may experience discomfort and difficulty concentrating while at school.
2. Skin dehydration: Excessive sun exposure can cause the skin to lose its natural moisture. Boys who are involved in intensive outdoor activities and do not protect their skin properly

¹ Sylvie Verdier-Sévrain and Frédéric Bonté, "Skin Hydration: A Review on Its Molecular Mechanisms," *Journal of cosmetic dermatology* 6, no. 2 (2007): 75–82; Joseph Fowler, "Understanding the Role of Natural Moisturizing Factor in Skin Hydration," *Pract Dermatol* 9 (2012): 36–40.

² Krysta Biniek, Kemal Levi, and Reinhold H Dauskardt, "Solar UV Radiation Reduces the Barrier Function of Human Skin," *Proceedings of the National Academy of Sciences* 109, no. 42 (2012): 17111–17116; Stéphane Diridollou et al., "Comparative Study of the Hydration of the Stratum Corneum between Four Ethnic Groups: Influence of Age," *International journal of dermatology* 46 (2007): 11–14.

³ James J Leyden and Robert Lavker, "Photodamage and Dry Skin," *Journal of Toxicology: Cutaneous and Ocular Toxicology* 21, no. 3 (2002): 255–263; Arnold Engel, Marie-Louise Johnson, and Suzanne G Haynes, "Health Effects of Sunlight Exposure in the United States: Results from the First National Health and Nutrition Examination Survey, 1971-1974," *Archives of dermatology* 124, no. 1 (1988): 72–79.

can become dehydrated. This can leave skin feeling dry, tight, and easily irritated.

3. Premature aging: UVA rays that can penetrate the deeper layers of the skin can damage collagen and elastin, leading to premature aging. If male students don't protect their skin from the sun, they may experience signs of aging such as fine lines, wrinkles, and loss of skin elasticity at a younger age.

Based on the above background, the community service team is interested in conducting skin hydration education and screening for male students at SMA Kalam Kudus 2 Jakarta.

METHOD

Following are the methods, activity steps, and the PDCA (Plan-Do-Check-Act) cycle for Community Service activities at Kalam Kudus II Senior High School Jakarta regarding skin hydration, sun exposure, and male students:

1. Methods: The methods used in this activity may include educative and practical approaches. You can combine counseling, demonstrations, and hands-on activities to increase boys' understanding of the importance of skin hydration and sun protection.
2. Activity steps:
 - a. Planning (Plan):
 - i. Identification of target participants: Boys in a particular school or community.
 - ii. Identification of activity objectives: Raising male students' awareness about skin hydration and the importance of protecting the skin from sun exposure.
 - iii. Plan material to be delivered, such as explanations about skin hydration, the effects of sunlight, how to protect the skin, and the importance of skin care.
 - iv. Prepare materials and support materials, such as posters, brochures, samples of skin care products and sunscreen.
 - b. Implementation (Do):
 - i. Give presentations or lectures on skin hydration and sun exposure to male students.
 - ii. Give examples of appropriate skin care products and how to use them.
 - iii. Conduct demonstrations on the correct way to apply sunscreen and keep skin moist.
 - iv. Invite male students to participate in practical activities, such as trying skin

care products, applying sunscreen, and doing simple skin care steps.

c. Examination (Check):

- i. Evaluate boys' understanding of skin hydration and sun exposure through questions, group discussions, or short quizzes.
- ii. Observe whether male students apply the skin care measures learned.
- iii. Receive feedback from male students and note areas that could be improved in this activity.

d. Action (Act):

- i. Based on the results of the evaluation and feedback, make improvements or adjustments to the next activity.
- ii. May hold additional question-and-answer sessions or provide additional resources, such as brochures or articles, for boys who wish to explore the topic further.
- iii. Plan further community service activities with an emphasis on maintaining skin moisture and protection from sun exposure.



Figure 1. Plan, Do, Check, Act (PDCA) Cycle⁴

RESULTS

This community service activity was attended by 92 responders, all of whom were male

⁴ Toyoki Kozai, "Plant Production Process, Floor Plan, and Layout of PFAL," in *Plant Factory* (Elsevier, 2020), 261–271, <https://linkinghub.elsevier.com/retrieve/pii/B9780128166918000194>.

senior high school students in grades 10 to 12. Table 1 presents basic data from respondents, while Figures 2–4 show pictorial evidence of activities.

Table 1. Basic Data of Respondents

Parameter	N (%)	Mean (SD)	Med (Min- - Max)
Ages (years)		16,02 (0,83)	16 (15 – 18)
Gender			
• Male	92 (100%)		
Moist Damage Total (%) (based on ages)		53,66 (10,43)	54,5 (26 – 76)
Ultraviolet Damage (%) (based on ages)		29,93 (10,71)	26 (17 – 64)



Figure 2. Counseling Process for Students of SMA Kalam Kudus II Jakarta



Figure 3. Hydration and UV Damage Inspection Process

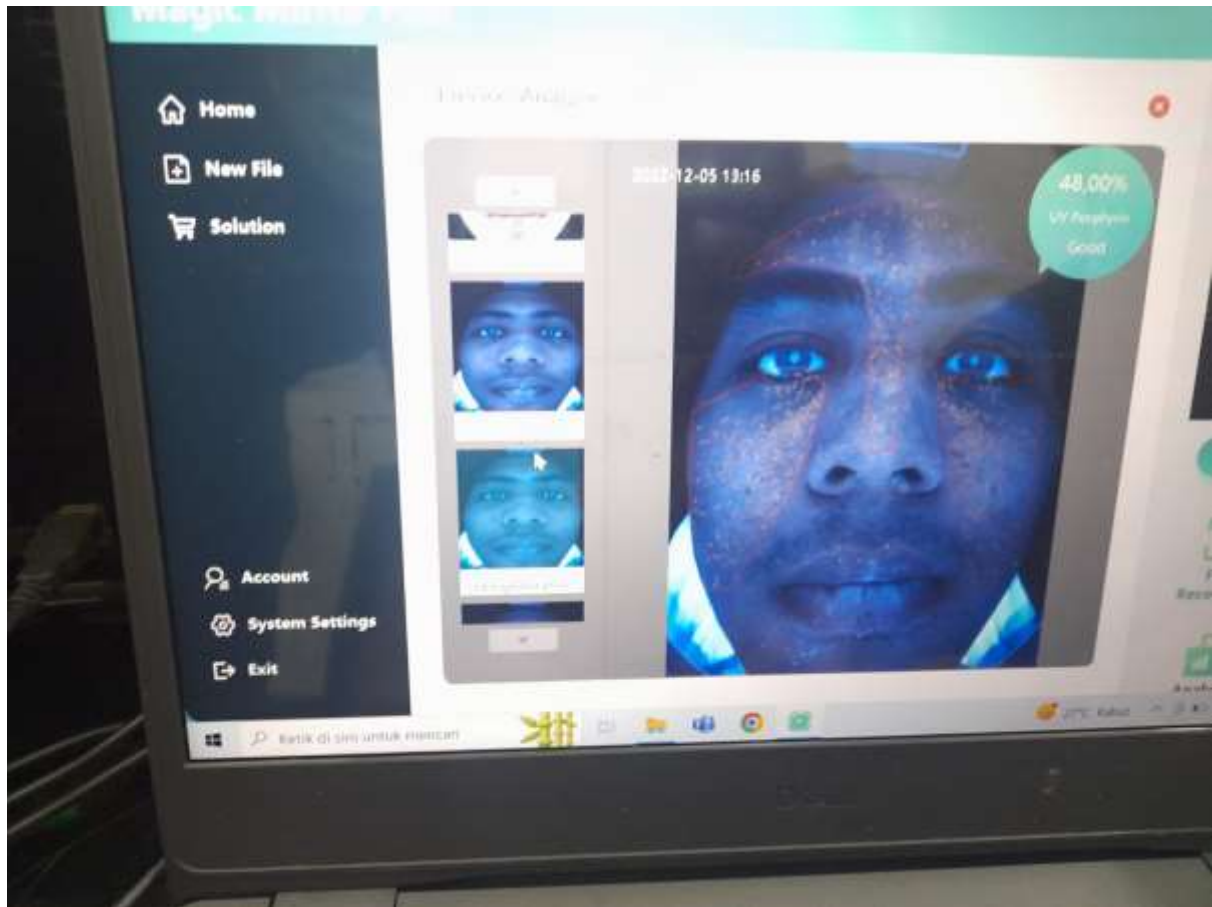


Figure 4. Screening Process, Diagnosis, and Examination Results

DISCUSSION

The importance of maintaining skin hydration from sun exposure is especially relevant for male students. Here are some reasons why maintaining skin hydration from sun exposure is important in order to maintain healthy skin in male students:⁵

1. Protection against UV rays: Excessive sun exposure can cause short-term and long-term skin damage. Ultraviolet (UV) rays from the sun can especially damage the collagen and elastin in the skin, which contributes to premature aging. By keeping the skin hydrated, the outer skin layer can better protect the skin from UV rays.
2. Prevents sunburn: UVB rays from sunlight can cause sunburn on the skin. Sunburn can cause the skin to burn, red, and feel sore. By maintaining skin hydration, the skin has a

⁵ Charles Lynde, "Moisturizers for the Treatment of Inflammatory Skin Conditions.," *Journal of drugs in dermatology: JDD* 7, no. 11 (2008): 1038–1043; Ronni Wolf et al., "Nutrition and Water: Drinking Eight Glasses of Water a Day Ensures Proper Skin Hydration—Myth or Reality?," *Clinics in dermatology* 28, no. 4 (2010): 380–383; Fowler, "Understanding the Role of Natural Moisturizing Factor in Skin Hydration."

better protective layer and can reduce the risk of sunburn.

3. Maintain skin moisture: Excessive exposure to sunlight can cause loss of skin's natural moisture. This can make the skin feel dry, rough, and easy to peel. By maintaining skin hydration, the skin can retain its natural moisture, maintain skin elasticity and softness.
4. Prevents premature aging: Excessive sun exposure is a major factor in premature aging. UV rays damage the collagen and elastin in the skin, leading to the appearance of fine lines, wrinkles and loss of skin firmness. By keeping the skin hydrated and protecting the skin from the sun, male students can prevent premature aging and maintain healthy and youthful skin.
5. Prevents the risk of skin cancer: Excessive sun exposure can also increase the risk of skin cancer, including basal cell cancer and squamous cell cancer. By maintaining skin hydration and protecting the skin from sun exposure, male students can reduce the risk of developing skin cancer in the future.

It is important to protect the skin from excessive sun exposure to maintain optimal skin hydration. Some steps that can be taken include:

1. Using sunscreen: Use a sunscreen with an appropriate SPF to protect the skin from UVA and UVB rays. Apply evenly to skin at least 15-30 minutes before sun exposure and repeat use every 2-3 hours or after swimming or sweating.
2. Use protective clothing: Wear clothing that protects the skin from sun exposure, such as hats, sunglasses, and clothes with UV absorbing materials.
3. Avoid exposure to sunlight at certain times: Try not to be exposed to direct sunlight at its peak intensity between 10 am to 4 pm.
4. Using a moisturizer: Use a moisturizer that is rich in water content and ingredients that can keep the skin moist. Apply regularly after bathing or when the skin feels dry.
5. Drink enough water: It is important to maintain hydration from within by drinking enough water every day. It helps maintain skin moisture naturally.

Counseling and early screening about skin hydration due to sun exposure has an important role in maintaining healthy skin in male students. Following are some of the important roles of early education and screening in this context:⁶

1. Education and Awareness: Counseling provides important information to male students about the importance of skin hydration and the harmful effects of excessive sun exposure. This helps increase their understanding of the importance of taking good care of their skin

⁶ Beverly A Banks et al., "Attitudes of Teenagers toward Sun Exposure and Sunscreen Use," *Pediatrics* 89, no. 1 (1992): 40–42; Karen M Emmons and Graham A Colditz, "Preventing Excess Sun Exposure: It Is Time for a National Policy," *Journal of the National Cancer institute* 91, no. 15 (1999): 1269–1270.

and taking proper protective measures.

2. **Prevention and Protection:** Early education and screening play an important role in the prevention of skin problems caused by sun exposure, such as sunburn, skin dehydration and premature aging. By knowing the right ways to keep skin hydrated and protect skin from the sun, boys can take appropriate precautions.
3. **Early Detection of Skin Problems:** Through early screening, counseling can help identify skin problems that may occur as a result of sun exposure, such as dry skin, wrinkles, or pigmentation spots. By detecting the problem early, remedial action can be taken earlier to prevent the possibility of more serious skin damage.
4. **Behavior Change:** Early education and screening provide opportunities for boys to learn concrete steps they can take to keep their skin hydrated and protect themselves from sun exposure. This can help change their behavior in caring for their skin and reduce the risk of skin problems caused by the sun.
5. **Health and Quality of Life:** By maintaining skin hydration and protecting the skin from sun exposure, male students can maintain good skin health and improve their quality of life. Healthy, well-hydrated skin looks better, feels good, and helps boost self-confidence.

In order to carry out counseling and early screening for skin hydration due to sun exposure, it is important to involve medical personnel or dermatologists who can provide accurate information and appropriate protective measures. In addition, collaboration with educational institutions and the local community can also expand the outreach of this early screening and counseling program to reach as many male students as possible.

CONCLUSION

This activity has a significant impact on maintaining the healthy skin of male students. Here are some important points that can be concluded:

1. Counseling and early screening provide knowledge and awareness to male students about the importance of skin hydration and protection against sun exposure. They are becoming more aware of the harmful effects of sunlight on the skin and the steps that can be taken to prevent them.
2. This activity plays a role in preventing skin problems caused by sun exposure, such as sunburn, skin dehydration, and premature aging. With the knowledge gained, male students can adopt appropriate behaviors to care for their skin and protect themselves from the sun.
3. Early screening helps in early detection of skin problems that may occur due to sun exposure. By detecting it early, remedial action can be taken earlier to prevent more serious skin problems in the future.

4. This activity can change the behavior of male students in caring for their skin and maintaining hydration. They are becoming more aware of the importance of regular skin care and protecting the skin from sun exposure.
5. By maintaining skin hydration and protecting the skin from the sun, male students can maintain good skin health, improve their appearance, and improve their quality of life.

Counseling and early screening regarding skin hydration and sun exposure are important in increasing understanding, changing behavior, and maintaining healthy skin for male students. These activities provide long-term benefits in preventing skin problems and promoting a healthy lifestyle that cares for skin health.

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