KNOW, CHOOSE, AND USE SUNSCREEN CORRECTLY: SKIN PROTECTION EDUCATION FOR ADOLESCENTS

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ABSTRACT

Excessive exposure to ultraviolet (UV) radiation can cause premature skin aging, pigmentation changes, and skin damage. This community service activity aimed to improve adolescents' knowledge of appropriate sunscreen use through interactive education. The activity involved 25 adolescents living in the dormitory of Universitas Muhammadiyah Banjarmasin on October 4, 2026. The material covered UVA and UVB radiation, sun protection factor (SPF) and PA ratings, product selection according to skin type, BPOM registration, expiry dates, and correct application and reapplication. Participants completed pre-tests and post-tests, and satisfaction was assessed using a questionnaire. The mean score increased from 84.0 to 94.8, a gain of 10.8 points. The proportion achieving a perfect score rose from 24% to 64%, and all participants scored at least 80 on the post-test. Satisfaction responses were generally positive. The findings suggest that interactive education can improve adolescents' knowledge of appropriate sunscreen use.

Keywords : *Sunscreen; Health Education; Adolescents; Ultraviolet Radiation; Community Service*

INTRODUCTION

The skin serves as a protective barrier against environmental factors, including sunlight. Excessive exposure to ultraviolet (UV) radiation may contribute to premature aging, pigmentation changes, and sun-related skin damage (Ahdyani et al., 2024). These effects highlight the importance of practical measures to reduce unnecessary UV exposure.

One measure to protect the skin from UV radiation is the use of sunscreen. Appropriate selection and use require attention to the level of UV protection, suitability for the user's skin and needs, and correct application. Understanding these aspects helps people use sunscreen appropriately as part of efforts to prevent sun-related skin damage (Mumtazah et al., 2020).

Adolescents are an important group for skin-protection education because daily activities may involve exposure to sunlight both indoors and outdoors. Education supported by demonstrations and discussion can help participants translate information into everyday practice.

Students from the Pharmacist Professional Education Program at Universitas Muhammadiyah Banjarmasin conducted a community service activity entitled "Know, Choose, and Use Sunscreen Correctly" for adolescents living in the university dormitory. The activity aimed to explain sunscreen benefits, UVA and UVB, SPF and PA ratings, how to check BPOM registration and expiry dates, and correct application, including reapplication. Changes in participants' knowledge were assessed using pre-tests and post-tests.

METHOD

The activity was conducted as an interactive health-education session on Sunday, October 4, 2026, from 9:00 to 11:00 a.m. Central Indonesian Time, at the dormitory of Universitas Muhammadiyah Banjarmasin, Barito Kuala Regency, South Kalimantan, Indonesia. The target participants were 25 adolescent dormitory residents.

The activity consisted of three stages. Preparation included coordination with the academic supervisor and dormitory staff, preparation of presentation materials and educational leaflets, development of pre-test, post-test, and satisfaction questionnaires, and arrangement of the required materials. The implementation stage included registration and opening remarks, the pre-test, presentation of educational material, discussion and questions, a sunscreen-use demonstration, distribution of leaflets, and the post-test. The evaluation stage involved summarizing pre-test and post-test scores and satisfaction-survey responses.

The material was delivered using PowerPoint slides and leaflets. Topics included the definition and benefits of sunscreen, UVA and UVB radiation, SPF and PA ratings, product selection according to skin type and needs, BPOM registration numbers, expiry dates, and correct application and reapplication. Satisfaction was assessed using a questionnaire with three response options: Strongly Agree, Agree, and Disagree. Data were analyzed descriptively using frequencies, percentages, and mean scores.

RESULTS AND DISCUSSIONS

The session began with participant registration, opening remarks, and a pre-test to assess baseline knowledge. The presentation then covered the importance of sunscreen, UV radiation, product selection, and correct application. Discussion, questions, and a practical demonstration

were used to reinforce the information. The activity documentation is presented in Figures 1 and 2.



Figure 1. Delivery of educational material on sunscreen use to participants.



Figure 2. Group photograph after the community service activity.

The most common pre-test score was 80, achieved by 8 participants (32%). Six participants (24%) scored 100, five (20%) scored 90, five (20%) scored 70, and one (4%) scored 60. These results indicate that most participants had a reasonably good level of prior knowledge, although some required further clarification.

Table 1. Distribution of participants' pre-test and post-test scores

Score	Pre-test (n)	Pre-test (%)	Post-test (n)	Post-test (%)
100	6	24%	16	64%
90	5	20%	5	20%
80	8	32%	4	16%
70	5	20%	0	0%

60	1	4%	0	0%
Total	25	100%	25	100%
Mean	84.0	—	94.8	—

After the educational session, 16 participants (64%) scored 100, five (20%) scored 90, and four (16%) scored 80. No participant scored below 80. The mean score increased from 84.0 to 94.8, a gain of 10.8 points, while the number of participants with a perfect score rose from 6 (24%) to 16 (64%). These findings indicate improved knowledge following the education and are consistent with the importance of education on sun exposure and proper sunscreen use (Ahdyani et al., 2024; Mumtazah et al., 2020).

The relatively high baseline scores suggest that some adolescents were already familiar with sunscreen. However, the increase after the session indicates that focused explanations of SPF, PA, BPOM registration, and reapplication remain useful. These findings should be interpreted cautiously because the activity involved a limited number of participants (n = 25) and did not include a control group; therefore, the results are descriptive and cannot be generalized.

The satisfaction survey showed generally positive responses from all 25 respondents. Most participants selected Agree or Strongly Agree across the indicators. The highest Strongly Agree response was recorded for item 3 at 80% (20 respondents), followed by item 6 at 72% (18 respondents). The highest Agree responses were recorded for item 7 at 68% (17 respondents) and item 8 at 64% (16 respondents). For item 2, two respondents (8%) selected Disagree. Overall, the responses indicate that participants considered the activity relevant and useful, although aspects of overall satisfaction and continuity could be improved.

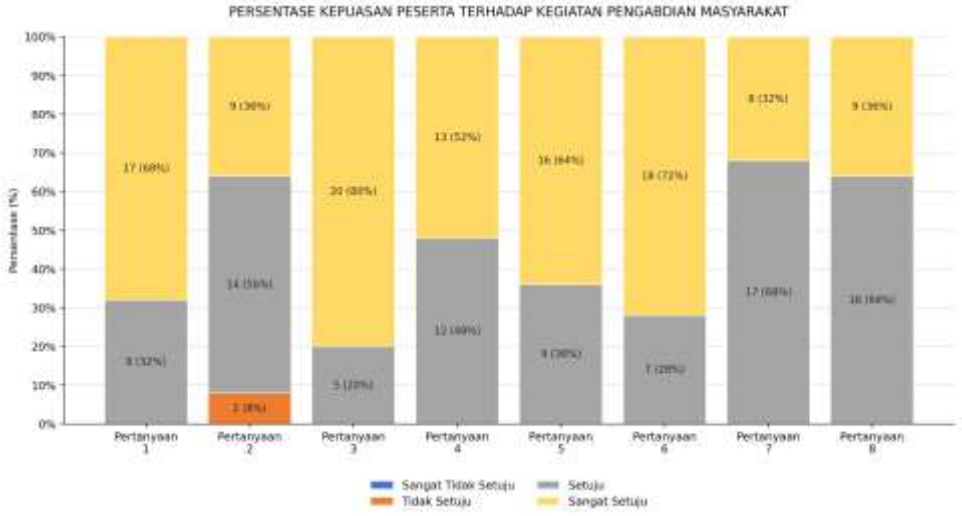


Figure 3. Participants' satisfaction with the community service activity.

Follow-up activities included completion of the final report, publication of a popular article on the Kompasiana online platform, sharing activity documentation through the cohort's Instagram account, and preparation of this scientific manuscript based on the community service activity.

CONCLUSIONS

The community service activity "Know, Choose, and Use Sunscreen Correctly" was held on October 4, 2026, at the dormitory of Universitas Muhammadiyah Banjarmasin and involved 25

participants. Interactive presentation, discussion, and demonstration were accompanied by an increase in the mean score from 84.0 on the pre-test to 94.8 on the post-test, a gain of 10.8 points. All participants scored at least 80 after the session, and the satisfaction survey showed generally positive responses. Similar activities should be conducted regularly and include follow-up evaluation to encourage the application of skin-protection knowledge in daily life.

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