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# Drug and cosmetic safety training for cadres of family welfare program

Tristiana Erawati<sup>1,2</sup>, Dewi Melani Hariyadi<sup>1,2</sup>, Noorma Rosita<sup>1,2</sup>, Widji Soeratri<sup>1,2</sup>, Tutiek Purwanti<sup>1</sup>, Hadi Poerwono<sup>1</sup>, Marcellino Rudyanto<sup>1</sup>, Helmy Yusuf<sup>1</sup>, Djoko Agus Purwanto<sup>1</sup>, I Nyoman Wijaya<sup>3</sup>

<sup>1</sup>Department of Pharmaceutical Sciences, Faculty of Pharmacy, <sup>2</sup>PUI-PT Skin Health and Cosmetic Technology, <sup>3</sup>Department of Practical Pharmacy, Faculty of Pharmacy, Universitas Airlangga Kampus C, Jl Mulyorejo, Surabaya, 60115, Indonesia

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# **ABSTRACT**

In order to increase public understanding and awareness regarding the safety use of drugs and cosmetics, the Community Service Team of the Faculty of Pharmacy, Airlangga University has held community service in Jonggrangan Village, Klaten, Central Java. The community service was carried out on July 31, 2023, with approximately 60 family welfare programs or PKK cadres and health cadres participating through training, presentations, and discussions. The activity began with a pre-test, continued with training, a presentation of the material by three experts, and a discussion, then ended with giving a post-test to the participants. The results of the pre and post-test analysis showed that participants' understanding increased. The results of the analysis of the answers to the 15 questions given showed that the increase in participants' understanding ranged from 2.13-46.02 percent. The impact of these activities on society. The increase in participants' understanding of each topic is not the same depending on the initial understanding. However, the problem is that the level of public understanding after receiving training is still below 50 percent namely on topics about the stages of using cosmetic products and about drug classification. So it is necessary to deepen the material using other strategies (appropriate methods and media).

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## 1. INTRODUCTION

The recent incident of syrup contamination by ethylene glycol (EG) and diethylene glycol (DEG), resulting in the deaths of 118 individuals, has caused concern among the community, especially parents or caregivers of toddlers (Chaterine & Setuningsih, 2022). Knowledge about diseases and their remedies is crucial for the community to enhance their quality of life (Fortuna et al., 2022). Several efforts have been made by the Indonesian National Agency of Drug and Food Control (BPOM RI) to address syrup contamination issues, including issuing explanations regarding the risk of syrup containing ethylene glycol (EG) and diethylene glycol (DEG). The article elaborates that BPOM conducts comprehensive preand post-market supervision of pharmaceutical products circulating in Indonesia.

According to the regulations and registration requirements for pharmaceutical products, BPOM has stipulated that all syrup products for children and adults are not allowed to use EG and DEG. However, EG and DEG can be found as contaminants in glycerin or propylene glycol used as additional solvents. BPOM has set maximum limits for EG and DEG in both of these additional substances in accordance with international standards. The Ministry of Health has explained that the cause of acute kidney injury (AKI) has not yet been determined and requires further investigation together with BPOM, the Indonesian Pediatric Society (IDAI), and other relevant parties. BPOM encourages healthcare professionals and the pharmaceutical industry to actively report drug side effects or adverse events following drug use as part of a larger preventive strategy. BPOM also coordinates intensively with the Ministry of Health, healthcare facilities, and other relevant parties to supervise the safety of drugs (pharmacovigilance) circulating and used for treatment in Indonesia. BPOM also conducts risk-based tracing, sampling, and gradual testing of syrup products that potentially contain EG and DEG contaminants.

The results of testing products containing EG and DEG contaminants still require further evaluation to ensure compliance with safe threshold levels based on references. Furthermore, products that exceed the safe threshold will immediately receive administrative sanctions such as warnings, strong warnings, temporary cessation of drug manufacturing activities, freezing of Good Manufacturing Practice (GMP) certificates, revocation of GMP certificates, temporary cessation of advertising activities, as well as freezing of distribution permits and/or revocation of distribution permits. All pharmaceutical industries that produce syrup products potentially containing EG and DEG contaminants are requested to report the results of independent testing as part of their business responsibility. Pharmaceutical industries can also take other measures such as changing the drug formula and/or raw materials if necessary (BPOM RI, 2022).

However, to reassure the public, other efforts are needed, which can be provided by universities, namely continuous education. These efforts can be carried out through training or lectures on how to obtain, use, store, and dispose of expired or damaged drugs, directly targeting community groups to minimize drug-related errors (Eden et al., 2022).

In addition to the drug issues, the use of cosmetics by the public is increasing. Indonesia has experienced a 7 percent growth in beauty product usage in 2021, with predictions of further increases in the coming years (Adisty, 2022). The cosmetics industry's development is also growing, producing increasingly diverse cosmetic products. Based on data from the Central Bureau of Statistics (BPS), the cosmetics industry, which includes the pharmaceutical, chemical, and traditional medicine sectors, experienced a growth of 9.61 percent in 2021. Furthermore, BPOM RI noted an increase in the number of cosmetic companies by 20.6 percent. A total of 819 cosmetic industries increased to 913 industries from 2021 to July 2022 (Hasibuan, 2022). Moreover, current cosmetic research has advanced significantly with the use of nanotechnology delivery systems to produce more effective formulations (Erawati et al., 2022; Rosita et al., 2018).

The public needs enlightenment about the safety and correct use of cosmetics. Based on BPOM findings, many illegal cosmetic products circulate in society, lacking guaranteed safety in their contents (BPOM RI, 2021). Cosmetics pose several risks, such as the possibility of contamination during repackaging or the sale of counterfeit products with unknown additional components, or even the use of expired products (Rachmawati, 2023). Additionally, heavy metal contamination in cosmetics is hazardous to skin health (Fatmawati, 2019). This forms the basis for the need for vigilance among cosmetic users to maintain safety and to understand the mechanisms to be followed in case of undesirable effects due to cosmetic use (Adjeng et al., 2023). Public education through lectures and discussions is often carried out to address this issue, one of which is by informing the public about the KLIK Check: Check Packaging,

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Check Label, Check Distribution Permit, and Check Expiry Date via the BPOM website (Putri & Rosita, 2021).

Based on the above description, this community service program aims to provide education on efforts to maintain the safety of drug and cosmetic use to family welfare programs or PKK mothers in the Jonggrangan Village, Klaten region, Central Java. The method used is lectures and discussions, which serve to inform and persuade. This activity is conducted by competent speakers, with pre and post-tests given to approximately 60 participants to assess the impact of the education provided.

The front line that significantly influences the safety of drug and cosmetic use in society is parents, particularly mothers. Besides medical advice, the knowledge they possess is one of the considerations that can be used to determine the choice of medication to be used or given to family members. Good and accurate knowledge will result in good and accurate choices regarding how to obtain, use, store, and dispose of drugs and cosmetics, ensuring safety, security, and achieving the desired results.

Mothers' PKK groups are one of the groups that contribute to the health and well-being of families. One PKK group in Desa Jonggrangan, North Klaten, Central Java, which has quite a large number of PKK cadres, more than 60 people, holds regular meetings, and is a partner that needs to enhance understanding and knowledge from competent speakers to have a broader insight into the safe use of drugs and cosmetics for themselves and their families and can be transmitted to the surrounding community.

The community service partners are the PKK cadre mothers in the village of Jonggrangan. Jonggrangan Village is one of the villages out of eight villages/urban areas in the North Klaten subdistrict, Central Java. Jonggrangan Village has a population of 4096 people (in 2019), with educational facilities including 1 Early Childhood Education (PAUD), 1 Kindergarten (TPA), 5 Kindergartens (TK), 2 Elementary Schools (SD), and 1 Senior High School (SMA), while health services are provided by the Community Health Center (Puskesmas) in Karang Anom village (BPS Kabupaten Klaten, 2020). With a considerable population in Jonggrangan village, PKK plays a strategic role in improving public health. Therefore, the Community Service Team from the Faculty of Pharmacy, Universitas Airlangga, implemented a training/education program in the area to enhance the understanding of PKK cadre mothers about the safety of drugs and cosmetics, enabling them to play a role in ensuring health for their families and the surrounding community. This activity aligns with one of Universitas Airlangga's Sustainable Development Goals (SDGs), namely Good Health and Well-Being.

To address the challenges faced by the partners, the Community Service Team from the Faculty of Pharmacy, Universitas Airlangga, endeavored to enhance the understanding and knowledge of PKK cadre mothers regarding the safe use of drugs and cosmetics by organizing a training on the safety of drug and cosmetic use for PKK mothers in Jonggrangan Village, North Klaten District, Central Java." This training consisted of lectures, discussions, and workshops facilitated by competent speakers in the field.

### 2. METHODS

The target audience for this activity, held on July 31, 2023, was the PKK cadre mothers in Jonggrangan village, North Klaten, Central Java. Approximately 60 PKK mothers participated, representing a community group expected to enhance their awareness regarding the use of drugs and cosmetics.

Prior to the event, all participants underwent a pre-test to assess their initial understanding, followed by a post-test after the event. Statistical analysis was conducted on the pre- and post-test

results to determine the improvement in understanding and knowledge among the participants. The topics covered included: (1) Cosmetic safety; (2) DAGUSIBU cosmetics; and (3) Proper medication management, delivered through lectures, demonstrations, and discussions.

The enhancement of understanding and knowledge regarding the safety of drugs and cosmetics among PKK mothers participating in the training is expected to increase awareness and ensure the proper use of drugs and cosmetics. This, in turn, can help in maintaining the health of their families and the surrounding community.

# 3. RESULTS AND DISCUSSION

At the beginning of the activity, before the delivery of the materials and training, each participant was given a pre-test sheet to answer, as shown in Figure 1. The pre-test consisted of 15 items to assess the knowledge already possessed by the training participants. Some of the activities were documented in the form of photos, which can be seen in Figures 1-7.

# **Cosmetics Safety Material Presentation**

Professor Dr. Widji Soeratri, DEA., Apt., explained that the use of cosmetics aims to maintain the skin in good condition and as an adornment, as seen in Figure 2. Cosmetics are not intended to cause systemic effects (do not affect the structure and function of the body). Meanwhile, drugs are intended to cause systemic effects and affect the structure and function of the body. He also explained that the cosmetics business trend is growing rapidly, driven by the increasing awareness of the public to use cosmetics in daily life, especially in anti-aging preparations, facial treatments, skin care, and personal care. Cosmetics are used by many people, from babies to the elderly, and for a long time. However, cosmetic users differ from drug users in that they are healthy individuals who pay great attention to the comfort of use (acceptability).





**Figure 1.** Delivering pre-test to participants **Figure 2.** Presentation of cosmetic safety material

Another difference between the use of cosmetics and drugs is that the use of cosmetics depends greatly on consumers, so the ingredients used in cosmetic formulas must be very safe. To ensure the safety of cosmetic use, it starts with the industry that produces cosmetics, which must guarantee stability (physical, chemical, microbiological), effectiveness, safety, and acceptability. Then, from the government, in this case, the Food and Drug Monitoring Agency (BPOM), including cosmetics, through the issuance of marketing authorization and supervision. Furthermore, consumers must be vigilant in choosing

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cosmetics to be used, considering the legality of their distribution (cosmetic notification), and there should be no damage visible from changes in color, odor, general appearance, or shape. Side effects can occur due to the use of unsafe cosmetics, including irritation, skin damage, and damage to organs such as the kidneys, liver, etc.

# **Presentation of DAGUSIBU Cosmetics Material and Training**

DAGUSIBU is an abbreviation for Dapatkan (Acquire), Gunakan (Use), Simpan (Store), and Buang (Dispose). Prof. Dr. Noorma Rosita, MSi., Apt., as seen in Figure 3, explained how to obtain, use, store, and dispose of damaged cosmetics. One can obtain cosmetics from various sources such as cosmetic stores, online platforms, doctor's clinics, or based on recommendations from friends or relatives. Prof. Noorma emphasized the importance of considering information available on labels, brochures, or packaging, including the product name, net weight, purpose, directions for use, composition, warnings, name, and full address of the notification applicant, notification number, production code and date, as well as the expiration date. The notification number of a cosmetic product can be checked online by anyone through the BPOM website. The tips are also provided on how to purchase safe cosmetics, such as ensuring they have marketing authorization from BPOM, checking for production and expiration dates, verifying that they do not cause skin irritation or allergic reactions, ensuring the packaging is intact, avoiding harmful ingredients such as lead, mercury, or other dangerous chemicals, and having a clear list of ingredients. Consumers should also avoid purchasing cosmetics that show signs of color changes, odor alterations, alterations in form or consistency, signs of fungal growth, or signs of moisture in powdered products, as well as damaged packaging or faded or illegible labels, even if they are offered at low prices. Consumers should be cautious about skin-whitening cosmetics due to the potential presence of mercury or hydroquinone and colored cosmetics that may be photosensitive.

Before choosing and using cosmetics, individuals should identify their skin type, which may include normal, oily, dry, combination, or sensitive skin. Other considerations for using cosmetics include age-appropriate use and following the usage instructions listed on the packaging, ensuring clean hands before use, and stopping use immediately if a cosmetic product causes itching, burning, or discomfort, although slight tingling may occur with skin-lightening cosmetics due to acidic ingredients such as kojic acid. When using skin-lightening products, it is recommended to follow up with sunscreen application. Sunscreen ingredients such as oxybenzone and octyl dimethyl PABA absorb UV rays or use antioxidants such as Co-Q10 to neutralize reactive oxygen species (ROS) to protect the skin from damage. Another tip for using cosmetics is to ensure clean hands and use a small spatula to dispense the product. Additionally, it is advised to cleanse the facial skin after going out, using makeup, or before bedtime. The correct order of using skincare cosmetics is to start with a cleanser, followed by toner, serum, and then cream, based on their texture from the thinnest to the thickest.

Cosmetic storage is essential for maintaining stability and effectiveness. Cosmetics should be stored in a dry, cool place away from extreme heat or cold temperatures and direct sunlight to prevent damage to the carrier system or active ingredients. Storing cosmetics in open containers can lead to contamination by moisture, microbes, or other pollutants. It is also important to keep cosmetics out of reach of children and always check the expiration date (ED) and product after opening (PAO) information. The difference between PAO and ED is that PAO indicates the period of usability after the product is first opened, marked by M (month), such as 2M, 4M, 12M, meaning up to 2 months, 4 months, 12 months, and so forth, while ED is the date when the industry still guarantees that the product meets the specifications outlined in the target product profile (TPP), as long as it is stored as recommended on the packaging.

Regarding cosmetic disposal, it is important to consider when and where cosmetic products are disposed of. Cosmetics should be discarded when they show signs of damage or have reached their expiration date. Consumers are advised to use up cosmetic products entirely, and if there are leftovers, they should be destroyed or diluted before disposal to prevent misuse. Cosmetic waste should be disposed of in trash bins or recycling centers for proper recycling.

# **Material Presentation and Training on How to Manage Medicines Correctly**

In the presentation of the material and training on Proper Medication Management, Dr. I Nyoman Wijaya S.Si., Sp.FRS., Apt., began by defining drugs as substances or combinations of substances, including biological products, used to influence or investigate physiological systems or pathological conditions for diagnosis, prevention, treatment, recovery, health improvement, and contraception in humans. It is also emphasized that drugs are chemical substances that are poisonous but can treat diseases in certain doses.

Drugs are classified into categories such as over-the-counter drugs, limited over-the-counter drugs, prescription drugs, and narcotics, regulated by Minister of the Republic of Indonesia of Health Regulation No. 28 of 2022 concerning Changes in Classification, Restrictions, and Categories of Drugs. Over-the-counter drugs, marked with a green circle logo on their packaging, can be purchased without a doctor's prescription from convenience stores, drugstores, or pharmacies, with usage instructions provided on the label or packaging. Limited over-the-counter drugs, indicated by a blue circle logo with warning signs (P1, P2, P3, P4, P5, or P6), can be purchased in limited quantities without a doctor's prescription from licensed drugstores and pharmacies. Prescription drugs, marked with a red circle logo and a black letter K, are available only at pharmacies with a doctor's prescription or without a prescription for pharmacy-only drugs.

These drugs, derived from plant derivatives or chemicals, can cause decreased or altered consciousness, alleviate or eliminate pain, and induce dependence. They can be obtained only with a doctor's prescription. Besides being categorized based on drug classification, drugs come in various forms, including solid forms such as powders, tablets, and capsules; liquid forms such as solutions, suspensions, and emulsions; and semi-solid forms such as creams, gels, and ointments. Based on administration route, drugs can be administered orally, topically, parenterally, and others.

During the training, Dr. I Nyoman Wijaya also provided instructions on the proper use of certain drugs, including eye drops, ear drops, suppositories, and inhalers for both children and adults, as depicted in Figure 4. It is also recommended obtaining drugs from certified pharmacies and ensuring that the drugs obtained are the correct type, dosage, and usage by consulting with pharmacists. It is essential to verify whether the drug can be used immediately or needs to be shaken, chewed, dissolved, etc., and ensure the correct equipment is used (measuring spoon, dropper, etc.). Other recommendations include ensuring clean hands before using drugs, drinking solid drugs with plain water, using the provided measuring spoon for liquid drugs, and cleaning the application area before applying topical drugs. If a dose is missed, Dr. Wijaya suggested three options: (1) Take the missed dose immediately; (2) Skip the missed dose if it is close to the next dose; or (3) Return to the next scheduled dose according to the instructions. Regarding drug storage, it is important to follow the storage instructions on the packaging, as some drugs require room temperature storage, while others need to be refrigerated. Drugs should be kept out of reach of children, remain in their original packaging, and ideally stored in a designated medication storage area to avoid misuse.

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Expired or damaged drugs should be disposed of properly. Solid drugs should be crushed and disposed of in the trash or buried in the ground, while liquid drugs should be diluted before disposal into the sewage system. For plastic bottles or pots, remove the drug label, seal the bottle, and dispose of it in the trash. For cardboard boxes or tubes, they should be cut open before disposal (Kementerian Kesehatan Republik Indonesia, 2021).





**Figure 3.** Presentation of DAGUSIBU cosmetics material and training **Figure 4.** Training on correct use of medication by and testimonials from participants

At the end of the training, a discussion was held, participants were given the opportunity to ask questions again, then closed with a post-test, giving door prizes and group photos which can be seen in Figure(s) 5, 6 and 7.







Figure 5. Discussion of resource persons with training participants

Figure 6. Prizes given to participants who successfully answer questions from the presenter

7. Group photo with the Village Head of Jonggrangan Village, training participants and the community service team from the Faculty of Pharmacy, Airlangga University

During the implementation, participants actively participated in the presentation of the material and asked questions and completed the pre-test and post-test completely. The results of the analysis of the pre and post-test questionnaires can be seen in Table 1.

Based on the results of the pre-test and post-test in Table 1, it is observed that several questions were answered correctly by less than 50 percent of the participants. Specifically, regarding the topic of the stages of cosmetic product use, only 44.19 percent of the participants answered question 9 correctly. The post-test results revealed that the increase in participants' understanding of this topic was still minimal, at only 8.02 percent

**Table 1.** Participants' pre-test and post-test results

Question	Correct answers (%)		Improved
	Pre-test	Post- test	comprehension (%)
The difference between cosmetics and medicines lies in	38.30	67.44	29.14
How can consumers assume that a cosmetic is safe?	34.04	62.79	28.75
If a cosmetic preparation is suspected to be unsafe, unless	53.19	65.12	11.93
The correct statement about Skin Care Cosmetics is	68.09	88.37	20.28
The correct statement about Makeup Cosmetics is	38.30	67.44	29.14
If you get (buy) cosmetics make sure	89.36	95.35	5.99
Things that are not found on cosmetic packaging	72.34	76.74	4.40
The following are things we need to be aware of when choosing cosmetics except	61.70	79.07	17.37
Cosmetic products that must be used by someone who is using lightening products are	36.17	44.19	8.02
To get safe, effective and quality medicine, it is best to buy medicine at	97.87	100	2.13
Dexamethazone 0.5mg tablets are a class of drugs	6.38	44.19	37.81
The rules for using 1 tablet 3 times a day on the medicine label indicate that the medicine must be taken every hour	44.68	90.70	46.02
If you get antibiotics such as amoxicillin 500mg tablets from a pharmacy, then	78.72	93.02	14.30
Syrup form of medicine, once the lid has been opened and used, the medicine may be stored for	72.34	81.40	9.06
Wrong statements at the stage of discarding or destroying drugs	46.81	69.77	22.96

Regarding the material provided on the proper management of medication, the improvement in participants' answers can be observed from questions 10 to 15. For question 10 concerning obtaining safe, effective, and high-quality medication, the best option being to purchase from a pharmacy, 97.87 percent of respondents answered correctly, and after the intervention, the percentage of correct answers increased to 100.0 percent. However, for question 11 concerning drug classification, only 11.19 percent of participants answered correctly.

# **Discussion**

The material presented regarding the safety of using medication and cosmetics includes discussions on the potential adverse effects and preventive measures that can be taken. Prevention methods include the necessity of knowledge regarding DaGuSiBu (acquiring, using, storing, and disposing of) both medications and cosmetics. The term DaGuSiBu was introduced by the Indonesian Pharmacists Association to ensure public safety. Medication differs significantly from cosmetics, primarily due to the distinct characteristics of their users. Medications are used by individuals who are typically unwell, with

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fewer demands or desires, whereas cosmetics are used by healthy individuals or those who perceive themselves as healthy and seek enhancement, often with various desires. Cosmetics are predominantly utilized to fulfill lifestyle preferences and modify appearances. This discrepancy impacts formulation, packaging, and marketing approaches. Hence, it is crucial for the public to be informed and cautious regarding unsafe cosmetics and overstated claims.

During this training, participants were informed about obtaining cosmetics correctly. With the proliferation of social media and online marketplaces, there are numerous channels for cosmetics marketing, including television, radio, print media, billboards, and digital platforms. Despite the rapid marketing pace, public knowledge about cosmetic use is considered insufficient. Therefore, individuals must carefully select the cosmetics they purchase. They should have adequate knowledge of restricted and prohibited ingredients, as well as the associated risks. Consumers should also be able to "recognize products" to be more cautious and suspect potential counterfeit products. Additionally, consumers should know how to verify products through the BPOM's KLIK website. This ensures that consumers can avoid counterfeit cosmetic products. Furthermore, individuals should be aware of their own skin type, skin sensitivity, and any allergens that may affect them. Public vigilance must increase, as BPOM has discovered illegal traditional medicines and cosmetics containing prohibited chemical ingredients.

Knowledge about cosmetic use was also provided during this training. For example, the mandatory use of sunscreen/sunscreen products for individuals using skin brightening products. Based on the pre-test results, only 36.17 percent of participants answered correctly. The public must understand the characteristics and proper usage of cosmetic products. Skin brightening products typically work by removing the epidermal layer of dull skin due to accumulated dead skin cells or skin with dark spots. This thins the skin, leaving behind prematurely aging skin. When the skin is prematurely aged, UV exposure must be avoided because UV rays can exacerbate existing dark spots and, in chronic conditions, lead to skin cancer. Therefore, sunscreen use is imperative. However, public knowledge about these skin brightening products is still considered low.

The results of providing material on the correct management of medications indicate that respondents answered correctly at a rate of 97.87 percent, which increased to 100.0 percent after the intervention. This demonstrates that the public understands how to obtain medications best from pharmacies. Pharmacies are distribution points for medications to the public, supervised by pharmacists. Pharmacists can ensure that the dispensed medication is effective and safe for patients because medications are obtained from pharmaceutical wholesalers and stored in pharmacies under strict regulations. Additionally, with pharmacist services, patients can inquire about the most suitable medication for them and receive proper medication usage instructions.

Question 11, regarding the classification of 0.5 mg dexamethasone tablets, received a correct score of 6.38 percent initially and increased to 44.19 percent after the intervention. Public knowledge about the classification of dexamethasone drugs is very low. This is dangerous because dexamethasone belongs to the corticosteroid group, and improper use can cause serious side effects such as increased blood sugar levels, edema, hypertension, and osteoporosis. Dexamethasone is a prescription-only medication that can only be obtained from pharmacies with a doctor's prescription. However, dexamethasone is often misused by the public because it can increase appetite, improve mood, and cause false weight gain (edema).

Regarding the usage instructions for taking one tablet three times a day for a labeled medication, the correct answer rate increased from 44.68 percent in the pre-test to 90.70 percent after the intervention.

Knowledge of this medication usage rule is crucial for the public to use the medication correctly and regularly, which affects the presence of the medication in the body. If medication usage is irregular, it can lead to excessively high doses at certain times, resulting in medication poisoning.

Similarly, the public must understand the use of antibiotics, which must be completed. For question 15, about how long a syrup medication can be stored after its bottle is opened and used, the correct answer rate increased from 72.3 percent in the pre-test to 81.4 percent after the intervention. Factory-produced syrup medications, once opened and used by a patient, should not be stored and reused for more than 30 days. This is done to maintain the effectiveness and safety of the product when used by patients. Syrup medication products generally contain water and sugar, and once the bottle is opened, the medication can be contaminated by air containing microorganisms, moisture, and oxidation from oxygen, which can reduce the stability of the medication.

Therefore, in the future, the public needs to receive more in-depth and comprehensive information regarding the use of skin brightening cosmetic products and the classification of medications using more appropriate methods.

### 4. CONCLUSION AND RECOMMENDATIONS

Efforts to enhance the understanding and knowledge of the community regarding the safety of using drugs and cosmetics are indeed necessary. Especially for PKK groups, which are one of the groups contributing to family health and welfare. The knowledge possessed is one consideration that can be used to determine choices regarding cosmetics or drugs to be used or given to family members, in addition to drugs given under doctor's instructions. Good and accurate knowledge will result in good and accurate choices regarding how to obtain, use, store, and dispose of damaged drugs or cosmetics, thus ensuring safety, security, and achieving expected outcomes. The results of pre and post-test analyses revealed an increase in participants' understanding, with an increase ranging from 2.13 percent to 46.02 percent for the 15 items provided. The impact of these activities on the community; the increase in participants' understanding on each topic varies depending on their initial understanding. However, the problem is that the level of community understanding after training still includes some below 50 percent. Therefore, it can be concluded: (1) Participants did not understand drug classification; (2) Participants did not pay attention to the stages of using cosmetic preparations; (3) It is necessary to deepen the material using other strategies (appropriate methods and media).

Based on the results of the pre and post-tests, it is evident that in some aspects, this training did not significantly improve the understanding of the community, such as, the classification of drugs and the stages of using cosmetic preparations. Therefore, it is advisable: (1) Variations of training methods that make participants active, such as: games, drama (Narsa et al., 2022); (2) Use of more interactive media (Komara, 2017); (3) Counseling is devoted to topics regarding the classification of drugs and stages of use of cosmetic preparations.

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### **REFERENCES**

- Adisty, N. (2022, May 15). *Tumbuh pesat, pemakaian produk kecantikan di indonesia kian meningkat.*GoodStats. Retrieved from: https://goodstats.id/article/menilik-meningkatnya-konsumsi-produk-kecantikan-di-indonesia-LcQed
- Adjeng, A. N. T., Koedoes, Y. A., Ali, N. F. M., Palogan, A. N. A., & Damayanti, E. (2023). Edukasi bahan dan penggunaan kosmetik yang aman di Desa Suka Banjar Gedong Tataan Kabupaten Pesawaran. *Jurnal Kreativitas Pengabdian Kepada Masyarakat (PKM)*, 6(1), 89-102. https://doi.org/10.33024/jkpm.v6i1.8041
- Badan Pusat Statistik (BPS) Kabupaten Klaten. (2020). *Kecamatan Klaten Utara dalam angka* 2020. BPS Kabupaten Klaten.
- BPOM RI. (2021). Modul pembelajaran cerdas memilih dan menggunakan kosmetika yang aman. Badan POM Republik Indonesia.
- BPOM RI. (2022, November 19). Penjelasan BPOM RI tentang Isu obat sirup yang beresiko mengandung cemaran Etilen Glikol (EG) dan Dietilen Glikol (DEG). Badan POM Republik Indonesia. Retrieved from: https://www.pom.go.id/penjelasan-publik/penjelasan-bpom-ri-tentang-isu-obat-sirup-yang-berisiko-mengandung-cemaran-etilen-glikol-eg-dan-dietilen-glikol-deg
- Chaterine, R. N., & Setuningsih, N. (2022, November 24). *Indonesia catat kasus gagal ginjal akut tertinggi, lampaui Gambia dan Nigeria*. Kompas. Retrieved from: https://nasional.kompas.com/read/2022/10/24/12111151/indonesia-catat-kasus-gagal-ginjal-akut-tertinggi-lampaui-gambia-dan-nigeria
- Eden, W. T., Kusuma, S. B. W., Savitri, A. A., & Ni'ma, N. S. (2022). Penyuluhan gema cermat obat dan edukasi "Tanya 5 O" di Kalisegoro. *BERDAYA Indonesian Journal of Community Empowerment*, 2(1), 25-35. https://doi.org/10.15294/berdaya.v2i1.60155
- Erawati, T., Agustin, E. D., Meldaviati, G., Rohmah, N. N., Purwanti, T., Miatmoko, A., Hendradi, E., Rosita, N., & Hariyadi, D. M. (2022). Effect of peppermint oil on the characteristics and physical stability of nanostructured lipid carrier-CoQ10. *Tropical Journal of Natural Product Research*, 6(3), 303–307. https://doi.org/10.26538/tjnpr/v6i3.3
- Fatmawati, F. (2019). Meningkatkan pemahaman masyarakat dalam sosialisasi bahaya cemaran logam berat pada kosmetik. *DIMAS: Jurnal Pemikiran Agama untuk Pemberdayaan, 19*(1), 73-84.
- Fortuna, T. A., Saputri, G. F. E., Nikita, A. B., Prabowo, A. I., Utami, A. D., Adedhea, M., Riskiana, S. Y., Syahidah, S. R., Utari, B., Azzah, M. S. Y., Faghfirlie, F., & Sulistyani, S. (2022). Penyuluhan obat anti-kolesterol dan "Dagusibu" di Masjid Nurul Huda Imam Malik, Kadipiro, Banjarsari, Surakarta. *Jurnal Pengabdian Masyarakat Medika*, 2(1), 23-28. https://doi.org/10.23917/jpmmedika.v2i1.460
- Hasibuan, L. (2022, November 4). Industri kecantikan tahan krisis, laris manis meski pandemi. CNBC Indonesia. Retrieved from: https://www.cnbcindonesia.com/lifestyle/20221104104902-33-385138/industri-kecantikan-tahan-krisis-laris-manis-meski-pandemi
- Kementerian Kesehatan Republik Indonesia. (2021). *Pedoman pengelolaan obat rusak dan kedaluwarsa di fasilitas pelayanan kesahatan dan rumah tangga*. Kementrian Kesehatan Republik Indonesia.
- Komara, E. (2017). Belajar dan pembelajaran interaktif. Bandung: Referika Aditama.
- Narsa, I. M., Wulan, N., & Rosita, N. (2022). *Panduan metode pembelajaran kolaboratif dan partisipasif.*Surabaya: Airlangga University Press.

- Peraturan Menteri Kesehatan Republik Indonesia Nomor 28 Tahun 2022 tentang Perubahan Penggolongan, Pembatasan, Dan Kategori Obat.
- Putri, M. K., & Rosita, M. E. (2021). Talk show: Cara cerdas memilih kosmetik yang aman. *EPMAS: Edukasi dan Pengabdian Masyarakat*, 1(2), 23-28. https://doi.org/10.61179/epmas.v1i2.249
- Rachmawati, P. (2023). Edukasi terkait keamanan kosmetik kepada masyarakat. *Mitramas: Jurnal Pengabdian dan Pemberdayaan Masyarakat*, *1*(2), 101-113. https://doi.org/10.25170/mitramas.v1i2.4308
- Rosita, N., Jayanti, S. E., & Erawati, T. (2018). Kojic acid penetration: Effect of carbomer-tween 80 aggregate formation. In *Proceedings of International Conference on Applied Pharmaceutical Sciences (ICoAPS)*, 17–22. http://dx.doi.org/10.2139/ssrn.3478500