Asian Journal of Community Services (AJCS)
Vol. 5, No. 1 2026: 57-66

Let's Store Medicine Correctly in the Village Community, Rejosari Kudus

Dwi Susiloningrum[1*], Dian Arsanti Palupi[2], Yulia Pratiwi[3], Lilis Sugiarti[4], Eko Prasetyo[5]
Institut Teknologi Kesehatan Cendekia Utama Kudus
Corresponding Author: Dwi Susiloningrum dsusiloningrum@gmail.com

A R T I C L E I N F O

Keywords: Drug Storage, Public Education, Drug Quality, Rational Drug Use

Received : 19, September
Revised : 21, November
Accepted: 23, January

A B S T R A C T

Proper drug storage plays a crucial role in maintaining drug quality, safety, and efficacy. Improper storage, such as exposure to inappropriate temperatures, excessive humidity, or unsafe storage, can degrade drug quality and increase the risk of adverse effects. This activity aims to increase public knowledge and understanding of drug storage procedures according to their type and dosage form. Implementation methods include outreach and education through counseling, demonstrations, and direct assistance. The activity results indicate an increased public understanding of the importance of reading storage instructions on packaging, storing drugs in their original packaging, keeping them out of reach of children, and paying attention to environmental temperature and humidity. It was concluded that education on proper drug storage can increase public awareness, resulting in safer and more effective drug use.

DOI prefik: https://doi.org/10.55927/ajcs.v5i1.571
ISSN-E: 2962-1496
https://srhformosapublisher.org/index.php/ajcs

INTRODUCTION

Medications are a crucial component of healthcare efforts to prevent, mitigate, and cure disease. To maintain the quality, stability, and effectiveness of medications until the time of use, proper storage is essential, in accordance with applicable standards. Improper storage of medications, such as exposure to high temperatures, excessive humidity, or direct light, can lead to degradation of active ingredients, changes in physical form, loss of therapeutic potency, and even pose a risk of toxicity to patients (BPOM RI, 2018).

Drugs have physical and chemical characteristics that are sensitive to various environmental factors, such as temperature, humidity, light, and physical contamination. Exposure to environmental conditions that do not comply with storage requirements can accelerate the degradation of active substances, cause changes in the physical and chemical properties of the drug, and reduce therapeutic potential. Decreased drug quality due to improper storage often goes unnoticed by the public because it is not always visible to the naked eye, but it can have a direct impact on the safety and effectiveness of drug use ((World Health Organization, 2011).

Medication storage is a crucial aspect of pharmaceutical management that must be considered at all levels of healthcare, from healthcare facilities to households. Medications have physical and chemical properties that are sensitive to environmental factors such as temperature, humidity, light, and physical contamination. If not stored according to established standards, changes in these properties can lead to a decrease in quality, damage, or even loss of therapeutic effectiveness, negatively impacting patient safety and therapeutic efficacy (Putri, 2020).

The World Health Organization (WHO) emphasizes that drug storage practices must meet Good Storage Practices (GSP) criteria, including temperature control, ventilation, lighting, and storage systems that prevent contamination and damage. In Indonesia, guidelines from the Food and Drug Monitoring Agency (BPOM) also stipulate that drugs must be stored according to the requirements of each preparation, such as controlled room temperature (15–25°C), storage in a dry place, protected from light, and using the first expired–first out (FEFO) system.

Problems with medication storage are still common, both in healthcare facilities and at the household level. Common errors include storing medications at inappropriate temperatures and humidity levels, direct exposure to light, storing medications in places easily accessible to children, and a lack of attention to expiration dates and the condition of medication packaging. These conditions can accelerate drug deterioration and increase the risk of using medications that are no longer fit for consumption.

Despite the establishment of various guidelines and regulations, medication storage problems are still frequently encountered, both in healthcare facilities and at the household level. Common errors include storing medications at inappropriate temperatures and humidity levels, exposure to direct sunlight, storing medications without their original packaging, and placing medications within easy reach of children. These conditions can accelerate drug deterioration and increase the risk of using medications that are no longer suitable for consumption (DwiDara et al., 2023).

With the rise in self-medication practices, people are increasingly storing medications at home, including over-the-counter (OTC) medications, restricted-prescription medications, and leftover prescription medications from previous treatments. This situation requires a sufficient understanding of proper medication storage methods to ensure their safety and effectiveness. However, various studies show that household medication storage practices are often carried out substandardly, potentially leading to misuse and unwanted side effects (Rudy et al., 2023). Low levels of public knowledge and awareness regarding proper medication storage principles are a major contributing factor to these problems. Many people don't understand that medication storage methods differ depending on the dosage form, such as liquids, tablets, capsules, or certain medications that require special storage, such as refrigeration. This lack of education also leads to misuse and improper disposal of medications, which can be harmful to health and pollute the environment (Putri & Sari, 2020; Rudy et al., 2023).

Furthermore, low public knowledge and awareness regarding proper medication storage principles are key factors contributing to these problems. Many people do not understand the differences in storage methods based on the dosage form, such as liquids, tablets, capsules, or medications that require special storage such as refrigeration. This lack of education also leads to errors in medication use and disposal, which can harm health and the environment. Public understanding of household medication storage also varies. Many households store medications without following proper storage instructions, for example, storing them in damp or hot locations contrary to manufacturer recommendations, increasing the risk of medication damage and misuse.

Various community service activities have shown that direct education through counseling, demonstrations, and mentoring can increase public knowledge and awareness regarding proper medication storage. Participatory educational approaches have proven effective in changing community behavior regarding the use, storage, and disposal of medications at the household level (Rudy et al., 2023). The role of pharmaceutical personnel, particularly pharmacists, is crucial in providing education and consultation to the community regarding medication management. Pharmacists not only play a role in providing medications but also serve as credible sources of information to ensure they are stored and used safely, effectively, and rationally (DwiDara et al., 2023).

Rejosari Village, Kudus Regency, is one of the areas that still requires strengthening education regarding medication storage at the household level. Based on initial observations, some residents do not optimally understand the storage instructions printed on the medication packaging. This situation highlights the need for structured and sustainable educational interventions

Therefore, research on proper and correct drug storage is important to ensure that the quality, safety, and efficacy of drugs are maintained from the time the drug is received until it is used by the patient, as well as to evaluate the extent to which storage standards have been implemented at the health facility level and in the community of Rejosari Village, Kudus.

IMPLEMENTATION AND METHODS

This community service activity was carried out at the Rejosari Village Head's House in Kudus on October 21, 2025, with the implementation time in the morning, namely 09.00 WIB to 12.00 WIB. The method used in this activity was an educational and participatory approach. The preparation stage was carried out by the community service team from ITEKES Cendekia Utama Kudus consisting of Pharmacy lecturers and in collaboration with students, through an initial visit to the Rejosari Village Head's House. At this stage, the team submitted a permit request to the Village Head to carry out educational activities on how to store drugs properly to prevent damage and reduce the risk of side effects.

Next, the ITEKES Cendekia Utama Kudus community service team prepared all the necessary requirements for the program. The preparation process began with identifying community needs to ensure the program's optimal and targeted implementation. This community service activity aimed to help participants understand proper medication storage and raise public awareness of the importance of maintaining medication quality to ensure its safety and effectiveness.

Figure 1. Socialization of Correct and Proper Drug Storage in Rejosari Village, Kudus

Figure 2. Students Provide Outreach to the Community of Rejosari Village, Kudus

RESULTS AND DISCUSSION

The implementation process was carried out with the following preparations:

Stage 1 (Preparation)

The preparation stage was carried out using interviews and direct field surveys to determine the community's level of understanding regarding proper medication storage. Next, the ITEKES Cendekia Utama Kudus community service implementation team collected data and information from various relevant literature as a basis for developing activity materials. At this stage, coordination was also conducted with relevant parties to obtain support, input, and encourage active community participation. In addition, the community service team prepared outreach materials and prepared the necessary facilities and infrastructure for demonstrations and practical exercises.

Phase 2 (Implementation Phase)

In this phase, the team provided supporting facilities in the form of drinking water and traditional cakes for the community. The activities were divided into three main components: education, demonstrations, and mentoring. The community service team delivered information on the importance of proper medication storage, procedures for disposing of unused or expired medications, and explanations of medication side effects. The resource person presented the material through a communicative visual presentation, creating an interactive discussion atmosphere and helping participants understand the material more comprehensively. Next, participants were given the opportunity to practice proper medication storage methods with guidance from the community service team, who also provided guidance, solutions, and consultation regarding technical challenges they encountered in preventing medication damage.

Stage 3 (Socialization Stage)

The socialization provided significant benefits, given the low level of public knowledge regarding proper and safe medication storage. These include:

1. Understanding and following storage instructions printed on medication packaging.
2. Storing medications out of reach of children.
3. Keeping medications out of direct sunlight, humidity, and high temperatures.
4. Storing medications in their original packaging with intact and clear labels.
5. Regularly checking expiration dates and the physical condition of medications.
6. Storing medications in a special, lockable cabinet for security. (BPOM, 2015).

This socialization was conducted to increase the public's knowledge of proper medication storage in Rejosari Village. It also provided the public with an understanding that pharmacists can be a resource for consultation regarding proper medication storage.

Figure 3. Socialization Activities for the Rejosari Village Community, Kudus

Drug storage is the activity of arranging and placing drugs in a location deemed safe from physical disturbances that could potentially degrade their quality (PERMENKES, 2021). This activity aims to ensure drug quality is maintained in accordance with applicable regulations. In practice, drug storage must take into account the form and type of preparation, as well as the conditions listed on the packaging label, such as temperature, light exposure, humidity levels, and the need for special storage to prevent contamination (PERMENKES, 2016a). Furthermore, pharmaceutical requirements for drug storage include aspects of stability and safety, sanitation, light regulation, humidity, ventilation, and drug classification (PERMENKES, 2016b).

The results of this community service activity indicate that residents of Rejosari Kudus are beginning to understand the importance of proper medication storage. The goal is to prevent drug damage that could potentially cause side effects during use. The education provided has had a positive impact, including increasing public awareness of storing medications according to regulations and fostering health awareness by paying attention to the condition of medications before storage, including checking expiration dates. Furthermore, this activity helps the community understand the risks of using expired medications and the proper disposal of medications, both liquid and solid, to prevent misuse by irresponsible parties. From an effectiveness aspect, the community realizes that proper medication storage can play a role in the initial step in treating diseases, especially those that cannot be treated with traditional medicine.

A total of 50 residents of Rejosari Village participated in this community service activity. The activity involved providing education on proper medication storage procedures. Prior to the educational material, participants received free health services in the form of blood pressure checks to determine their baseline health status. The educational material was delivered using PowerPoint presentations and video screenings to enhance participants' understanding of the material. The drug simulations used were over-the-counter and restricted-prescription drugs commonly stored at home for minor ailments (Ministry of Health, 2017). This education aimed to educate the public on proper medication storage and prevent storage errors. This community service activity is expected to increase public knowledge regarding the proper use and storage of medications.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions of the community service activity, which raised the theme "Proper and Correct Medication Storage," held on October 21, 2025, in Rejosari Village, are as follows:

The community service program, which focused on educating people about proper medication storage in Rejosari Village, Kudus Regency, went well and had a positive impact on the community. The results showed an increase in public understanding and awareness regarding the importance of storing medications according to regulations, including paying attention to packaging instructions, expiration dates, and environmental storage conditions.

The education program, conducted through an educational and participatory approach, accompanied by presentations, video screenings, and live simulations, proved effective in increasing public knowledge about proper medication storage methods according to the type and dosage form. The community also began to understand the risks that can arise from improper medication storage, such as decreased drug quality and potential side effects.

In addition to improving technical knowledge, this activity also strengthened the community's understanding of the role of pharmacists as a trusted source of information and consultation in medication management. Therefore, this community service activity is expected to encourage the implementation of safer and more rational medication storage practices at the household level and contribute to supporting effective and safety-oriented medication use.

Based on the results of community service activities, it is recommended that education on proper medication storage be conducted sustainably and reach a wider community, particularly at the household level. Similar activities should be conducted periodically, involving village officials and health cadres, to ensure a more widespread and sustainable dissemination of educational messages.

Furthermore, follow-up assistance through direct visits to residents' homes is recommended to monitor the implementation of the socialized medication storage practices. This assistance is expected to help communities identify and correct ongoing medication storage errors, while simultaneously strengthening behavioral changes in medication management at home.

The role of pharmacists as resource persons and consultants in medication management in the community should also be strengthened, both through outreach activities, direct consultations, and other educational media. The use of simple and easy-to-understand information media, such as leaflets, posters, or digital media, is also recommended to increase the effectiveness of information dissemination regarding proper medication storage, use, and disposal. In the future, it is hoped that similar community service activities can be complemented with quantitative evaluations, such as measuring the level of knowledge before and after education, so that the impact of the activities can be measured more objectively and become the basis for program improvements in the future.

REFERENCES

BPOM RI. (2018). Pedoman Cara Distribusi Obat yang Baik (CDOB). Jakarta: Badan Pengawas Obat dan Makanan Republik Indonesia.

BPOM, 2015. Materi Edukasi Tentang Peduli Obat dan Pangan Aman. Jakarta: GNPOPA.

Kementerian Kesehatan RI. (2018). Pedoman Pengelolaan Obat di Rumah Tangga (DAGUSIBU). Jakarta: Kemenkes RI.

Kementerian Kesehatan RI. (2019). Pedoman Pengelolaan Obat di Fasilitas Pelayanan Kesehatan. Jakarta: Kemenkes RI.

World Health Organization. (2011). WHO Technical Report Series No. 961: Stability Testing of Active Pharmaceutical Ingredients and Finished Pharmaceutical Products.

World Health Organization. (2003). Good Storage Practices for Pharmaceuticals (WHO Technical Report Series 908). Geneva: WHO.

World Health Organization. (2011). WHO Technical Report Series No. 961: Stability Testing of Active Pharmaceutical Ingredients and Finished Pharmaceutical Products. Geneva: WHO.

Putri, R. A., & Sari, M. I. (2020). Evaluasi sistem penyimpanan obat di puskesmas berdasarkan standar pelayanan kefarmasian. Jurnal Farmasi dan Kesehatan, 10(2), 85–92.

PERMENKES,(2016a). PERMENKES RI Nomor 74 Tahun 2016 tentang Standar Pelayanan Kefarmasian di Puskesmas. Menteri Kesehatan Republik Indonesia.

PERMENKES (2016b). PERMENKES RI Nomor 72 Tahun 2016 tentang Standar Pelayanan Kefarmasian di Rumah Sakit. Menteri Kesehatan Republik Indonesia.

PP RI, (2009). Peraturan Pemerintah Republik Indonesia Nomor 51 Tahun 2009 tentang Pekerjaan Kefarmasian. MENKUMHAM Republik Indonesia.

M. Rudy, R. Widya Wati, U. Helpa Adriana, W. Sudarti, dan A. Zahrani.(2023). "Edukasi Cara Penyimpanan Dan Pembuangan Obat Yang Benar Di Posyandu Mawar Jingga Panjang Selatan," J. Pengabdi. Farm. Malahayati, vol. 6, no. 2, hal. 89–97.

S. DwiDara, A. Y. Rindarwati, R. N. Fadillah, dan Y. Iskandar.(2023)."Evaluasi Sistem Penyimpanan Obat Berdasarkan Standar Pelayanan Kefarmasian Pada Salah Satu Apotek Di Kota Bandung," J. Pharm. Sci., vol. 6, no. 1, hal. 301–306, doi: 10.36490/journal-jps.com.v6i1.67