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CARE: Diabetes Screening With The Utilization of Family Medicinal Plants (TOGA)

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ABSTRACT
Health is a fundamental pillar of community life, closely linked to quality of life and productivity. One promising preventive effort closely linked is the utilization of Family Medicinal Plants (TOGA), which are herbal plants cultivated in home gardens and known for their medicinal properties. This community service program aims to enhance the knowledge and skills of residents in Mangunrejo Village, particularly in Dusun Munengan, in processing TOGA into safe, practical, and economically valuable health beverage products. The method used to employ in this program involves a participatory approach through education, training, and community mentoring. The plants focused on are clove, sappan wood, and cinnamon, which contain active compounds such as eugenol, brazilin, and cinnamaldehyde—proven to have health benefits such as antioxidant, antidiabetic, and anti-inflammatory effects. Residents were actively involved in every step, from plant identification and processing to the development of final products such as herbal tea bags and ready-to-drink spiced beverages.

Keywords **:** Community Service,Health Beverages,Herbal Plants,TOGA

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INTRODUCTION

This program offers a novel approach by integrating community-based health education with practical skill training in processing TOGA into value-added products, thereby linking health promotion with local economic empowerment. Health is a fundamental determinant of quality of life and societal productivity. As awareness of the importance of a healthy lifestyle grows, there is a growing demand for natural, cost-effective, and accessible alternative treatments and preventive approaches. One form of preventive measure with great potential for development in the community is the use of Family Medicinal Plants (TOGA). TOGA refers to plants grown and cultivated in the home environment that possess medicinal

properties as traditional remedies.

Indonesia possesses an abundance of biodiversity, including plant species with potential as herbal medicines. According to data from the Indonesian Ministry of Health, there are more than 30,000 plant species in Indonesia, and approximately 9,600 of them are known to have medicinal benefits. The use of traditional herbal medicine (TOGA) has long been known to the Indonesian people through generations. However, with modernization and changing lifestyles, this practice has begun to fade, particularly among urban and rural communities that have started relying on chemical medications. In fact, when used appropriately, TOGA can serve as a solution that is not only economical but also safe for maintaining family health. According to the World Health Organization (WHO), up to 80% of the population in developing countries rely on traditional medicine for primary healthcare needs.

Amid rising cases of non-communicable diseases such as hypertension, diabetes, high cholesterol, and digestive disorders, the role of TOGA has become highly relevant. Several plants, such as ginger, turmeric, temulawak, betel leaf, lemongrass, and aloe vera, have been empirically and scientifically proven to contain active compounds capable of helping to boost immunity, reduce inflammation, aid digestion, and assist in blood sugar management. However, this potential has not yet been fully maximized at the community level, primarily due to the public's limited knowledge regarding how to process TOGA into health products that are safe for consumption and have economic value.

Mangunrejo Village, particularly Munengan Hamlet, possesses natural resources that support the cultivation of TOGA. The abundance of backyard land and a climate conducive to the growth of various herbal plants present a significant opportunity for developing programs based on the utilization of local plants. However, based on initial observations and interviews with residents, it was found that most community members are not yet aware of the specific benefits of the plants they grow. While some families do grow ginger, kencur, or lemongrass, these are used only occasionally and have not yet become part of the family's routine for self-medication. There has been no collective effort to develop TOGA into derivative products such as health drinks, herbal teas, or instant herbal remedies that can be consumed in a practical and appealing manner.

In addition, limited knowledge of processing techniques, sanitation, proper dosages, and hygienic preparation methods poses a major challenge. Residents have also not received training on how to process TOGA into products that are not only healthy but also have market value. In fact, if processed properly, TOGA can become a sustainable local economic opportunity. The development of TOGA-based products also aligns with global trends that increasingly value the consumption of herbal, eco-friendly, and natural products.

Through this community service initiative, students and faculty members from Strada Indonesia University have taken the initiative to provide education, training, and guidance to residents on how to utilize TOGA to create health products or beverages. This initiative aims to enhance community knowledge while promoting self-reliance in health management and local economic development. This activity was carried out using a participatory approach, in which residents were actively involved from the identification of available plants, the processing, to the creation of finished products such as herbal tea bags, ready-to-drink herbal tonics, or herbal infusions.

The expected benefits of this program encompass three main areas: health, the economy, and the environment. From a health perspective, families will have access to more affordable and readily available natural remedies. From an economic perspective, TOGA-based health drinks can serve as a business opportunity for home-based enterprises or groups

of women in the PKK. Meanwhile, from an environmental perspective, the community will be encouraged to make more productive and sustainable use of their backyard land.

This community service program is also in line with the government's efforts to foster a healthy, self-reliant society through the Healthy Living Community Movement (GERMAS). One of GERMAS's key focuses is on healthy eating and increased physical activity, and the use of TOGA as a herbal beverage aligns perfectly with these objectives. Through this initiative, it is hoped that residents' capacity to manage local resources will improve, and that a collective awareness will emerge that maintaining health does not always have to be expensive or rely on chemical medications, but can begin at home through natural and affordable methods.

Thus, the community service initiative "Utilizing TOGA into Health Products/Beverages" is highly important and relevant in the context of rural community empowerment. It not only supports improved health outcomes but also serves as a gateway to fostering a self-reliant, creative, and responsive community that capitalizes on its local potential. The involvement of various stakeholders, such as health cadres, the PKK, farmer groups, and youth organizations, is expected to strengthen the sustainability of this program in the future.

METHOD

The implementation method we used was the Extension Activity Plan (SAP). The components of the Extension Activity Plan (SAP) we used consisted of an extension topic—namely, the use of toga as a health product or beverage—targeted at the rural community. This extension activity took the form of a demonstration on how to make herbal tea.

RESULTS

Output

An educational and training session was held on Monday, August 4, 2025, at the home of the Head of Mangunrejo Hamlet, with 35 participants in attendance. The topics covered included an introduction to household medicinal plants (TOGA), the health benefits of TOGA, simple processing techniques for making health drinks, and how to present herbal products in a hygienic and appealing manner.

The TOGA plants focused on in this activity were cloves, secang, and cinnamon, which are known to have potential as antioxidants, anti-inflammatories, and immune system boosters.

The outreach was conducted interactively, using a hands-on demonstration of making herbal beverages from a combination of these three ingredients and the proper processing methods for daily consumption. Participants were also given samples of herbal beverages prepared by the students to experience firsthand the benefits and taste. The entire series of activities was documented through photos, videos, and field notes, and will be included in the community service report.

Outcome

The residents' enthusiasm for participating in the training and trying the herbal drinks demonstrates the growing public interest in utilizing TOGA as an alternative for improving family health.

Some residents mentioned that previously they only knew TOGA as ornamental plants or ingredients for traditional herbal remedies, but through this activity they have come to understand that TOGA can be practically processed into healthy daily beverages.

Participants have also begun to show a willingness to replant TOGA plants in their

yards and share the information they've gained with neighbors and other family members.

For students, this activity serves as a learning platform for community education based on local resources, while also strengthening their communication skills, teamwork, and innovation in developing natural-ingredient products.

DISCUSSION

At the start of the program, some residents still viewed TOGA as an "old-fashioned" plant that was irrelevant to modern health needs. A communicative approach and direct demonstration of its benefits—through taste tests and the presentation of simple scientific information—were necessary to change that perception.

Additionally, limited processing equipment restricted demonstrations to a small scale. Some residents also requested alternative recipes, but the training schedule did not allow for a comprehensive demonstration of TOGA's full processing potential.

Village cadres are expected to continue educational activities by conducting periodic training on the use of TOGA for health, including seedling propagation, plant care, and the development of edible herbal products. Training for village cadres is essential so they can serve as active facilitators in similar activities, whether at the RT/RW level or within PKK women's groups. Activities such as "Home Herbal Workshops" or "Healthy Cooking Demos with TOGA" can be developed as follow-up initiatives.

Collaboration with organizations such as Karang Taruna, PKK, and Majelis Taklim can also help disseminate information more widely and in a manner aligned with the local community's socio-cultural characteristics. Additionally, a family-based approach remains key. Housewives, as the managers of family consumption, need to be educated about the benefits of natural herbal drinks, especially as an alternative to artificially sweetened beverages. Families need to be encouraged to adopt a herbal lifestyle, ranging from growing their own TOGA, preparing daily herbal concoctions, to making it part of a shared healthy lifestyle.

CONCLUSION

An outreach and training session on the use of household medicinal plants (TOGA) to create health products or beverages, held on Monday, August 4, 2025, in Mangunrejo Hamlet, successfully increased community knowledge and awareness regarding the importance of using natural ingredients as part of efforts to maintain health. Through engaging presentations and hands-on demonstrations of making herbal beverages from cloves, secang, and cinnamon, participants not only understood the benefits of these plants but were also motivated to process and utilize them independently at home. The participants' enthusiasm demonstrates that local resources like TOGA can serve as an affordable, accessible, and socially acceptable alternative for health solutions. For the students, this activity provided an opportunity to develop skills in delivering educational content, interacting with the community, and devising innovations based on local resources.

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