



## SOCIALIZATION OF DIABETES MELLITUS PREVENTION IN YOUNG PEOPLE THROUGH THE USE OF HERBAL MEDICINE AT THE ARROHYATI AL FURQON ORPHANAGE

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### ABSTRACT

**Background** Socialization is a process of learning about everything in life, an obligation for parents, society, and the government to teach it to children. The increasing prevalence of obesity in young people is comparable to the increasing proportion of NIDDM cases in young people. Many Indonesian plants are used as medicine for diabetes mellitus, including brotowali (*Tinospora crispa*), cinnamon (*Cinnamomum burmanii* Nees), bitter melon (*Momordica charantia*), and salam (*Syzygium polianthum* weight). **Method** Disseminating knowledge about triggers, prevention, and herbal ingredients found around us that can be used to prevent diabetes mellitus. The pre-test and post-test were used to determine the effectiveness of the socialization material. The activity continued with a health checkup, which included a Body Mass Index (BMI) assessment for the foster children.

**Results and discussion** There was an increase in the average score of 21.8 after the socialization activity. This indicates an increase in participants' understanding of the material presented. The pre-test score was 68.2 and the post-test score increased significantly to 90. The results of the Body Mass Index (BMI) examination showed a fairly varied distribution of participants' nutritional status, namely severe obesity 6.25%, obesity 12.5%, healthy weight 50%, underweight 31.25%. **Conclusion** There was an increase in knowledge among participants after the presentation of the material, indicated by an increase in the average test score of 21.8 compared to the previous session. The health examination results showed that the majority of foster children (50%) had a BMI classified as healthy weight, 31.25% as underweight, 12.5% as obese, and 6.25% as severely obese.

Keywords: BMI, Diabetes Mellitus, Herbal, Orphan, Orphanage

## INTRODUCTION

An orphanage is a non-profit institution that provides care, education, and protection for orphans and abandoned children. Orphanages serve as a substitute for parents, meeting the physical, psychological, and social needs of children (Silitonga et al., 2023). According to Human Rights Law No. 39 of 1999, children defined as individuals under the age of 18, must be guaranteed an environment that supports their growth and development.

Socialization, as a lifelong learning process, is crucial for transmitting cultural and health knowledge. In orphanages, this process helps compensate for the lack of parental guidance (M.Si, 2019). Diabetes mellitus (DM) is a chronic metabolic disorder characterized by hyperglycemia due to defects in insulin secretion, insulin action, or both. Diabetes mellitus contributes significantly to global morbidity and mortality, leading to complications such as neuropathy, nephropathy, and cardiovascular disease (Article et al., 2024).

The WHO predicts a surge in diabetes prevalence in Indonesia—from 8.4 million cases in 2000 to 21.3 million in 2030. The increasing incidence among adolescents is closely linked to sedentary lifestyles and high-calorie diets. Therefore, preventative measures through health education and natural remedies are crucial.

Several Indonesian herbal plants exhibit antidiabetic properties. *Tinospora crispa*, for example, contains antioxidant compounds and has been traditionally used to treat gout, hypertension, and diabetes (Puspitasari et al., 2022). Other herbs such as cinnamon, bitter melon, and bay leaves are also known to improve glucose metabolism. Therefore, herbal medicine is recognized as an affordable and accessible way to improve health literacy and prevent chronic diseases.

The Arrohyati Al Furqon Orphanage, established in 2003 in

Surabaya, currently houses 17 children between elementary and high school ages.

## OBJECTIVES

### *General Purpose*

The general objective is to provide information about the use of herbs to maintain the body

### *Special Purpose*

The specific objective of the community service activities at the Arrohyati Al Furqon Orphanage is to provide outreach regarding the use of herbs to protect the body from diabetes mellitus and to conduct Body Mass Index examinations on foster children.

## PLAN OF ACTION

### *Strategy Plan*

The UNUSA Faculty of Medicine Community Service Team coordinated with the Arrohyati Al Furqon Orphanage to reach an agreement regarding the implementation of community service activities

### *Implementation*

The event began with an outreach on the use of herbs to protect against diabetes mellitus, followed by a health checkup, which included a Body Mass Index (BMI) assessment.

### *Setting*

The results of the increase in average pre-test and post-test scores are used as indicators of the success of the outreach program. The results of the Body Mass Index (BMI) examination will be used as data on the distribution of nutritional status of the foster children at the Arrohyati Al Furqon Orphanage.

### *Target*

Seventeen foster children and seven orphanage administrators participated in the outreach and health checkup at the Arrohyati Al Furqon Orphanage.

## RESULTS AND DISCUSSION

The average pre-test score was 68.2, which increased to 90 after the educational session, representing a 21.8-point rise. This improvement demonstrates the effectiveness of interactive educational methods in enhancing comprehension. Similar findings have been reported by Hosseini et al. (2025), who showed that multi-session educational interventions significantly improved adolescent health literacy.

### Body Mass Index (BMI)

BMI Category	Percentage
Severe Obesity	6.25%
Obesity	12.5%
Healthy Weight	50%
Underweight	31.25%

The BMI assessment showed 50% of participants had a healthy weight, 31.25% were underweight, 12.5% obese, and 6.25% severely obese.

## CONCLUSION

The community outreach program successfully improved participants' knowledge of diabetes prevention and the use of herbal medicine, as evidenced by a significant rise in post-test scores. BMI assessment showed that half of the children had a healthy weight, though a considerable proportion were under- or overweight. Continued health education, regular monitoring, and nutritional guidance are recommended for long-term well-being.

## REFERENCES

1. Puspitasari, R. N., Kurnijasanti, R., Mustafa, M. R., & Sudjarwo, S. A. (2024). Exploring the anti-inflammatory and anti-apoptotic properties of phloroglucinol on pancreatic cells in diabetic models: In silico and in vivo study., *Narra j.* 1–10.
2. I., M. S. (2019). Pentingnya sosialisasi bagi anak. *Jurnal Ilmiah Sosiologi Agama (JISA)*, 2(1), 29. <https://doi.org/10.30829/jisa.v2i1.5406>
3. Puspitasari, R. N., Munir, R. S., Farmakologi, D., Kedokteran, F., Nahdlatul, U., & Surabaya, U. (2024). Sosialisasi jamu kebugaran untuk lansia di Panti Jompo Lestari Gresik., 6, 69–73.
4. Puspitasari, R. N., Sudjarwo, S. A., Pranoto, A., & Basori, A. (2022). Antioxidant activity of *Tinospora crisa* extracted with different ethanol solvents. *Bali Medical Journal*, 11(3), 1107–1110. <https://doi.org/10.15562/bmj.v11i3.3467>
5. Susanti, S., Dalimunthe, K. T., Triwani, R., Naibaho, Y., Conia, A., Anggun, R., & Sari, I. (2024). Peran pengurus panti asuhan dalam menangani masalah kesehatan psikis anak panti di Sahabat Keluarga Indonesia. *Jurnal Media Akademik (JMA)*, 2(6), 284–290.
6. Silitonga, T. F. C., Simatupang, W. P. S., Ginting, L. C., Zaidan, M. A., & Vieri, H. C. (2023). Peran Panti Asuhan Yayasan Rumah Bakti Kasih Anak Indonesia dalam membentuk karakter anak panti. *SOSMANIORA: Jurnal Ilmu Sosial dan Humaniora*, 2(1), 1–6. <https://doi.org/10.55123/sosmaniora.v2i1.1461>
7. Hosseini, M. S., Rakhshanderou, S., Safari-Moradabadi, A., Ghaffari, M., & Pakkhesal, M. (2025). Effectiveness of a school-based oral health literacy promotion intervention: A randomized controlled trial (RCT) among adolescents. *BMC Public Health*, 25, Article 1982.

8. Nazari, A., Hajhashemi, M., Safavi, S. R., & others. (2025). Health promotion theory-based educational interventions for improving oral health in children and adolescents: A systematic review and meta-analysis. *BMC Oral Health*, 25, Article 1153.
9. Kail, N. Z. I. A., Mokhtar, A. H., Yahya, A., & others. (2025). Effects of the MyBFF@school program on anthropometry and body composition among overweight and obese adolescent schoolchildren. *BMC Public Health*, 24(Suppl 1), Article 3625. <https://doi.org/10.1186/s12889-024-20725-0>