Measuring the Effectiveness of Hypertension Education: Health Evaluation Study of A Village

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ABSTRACT

Hypertension is the leading cause of premature death worldwide with 1.28 billion adults affected, mostly in low- and middle-income countries. This community service program aims to assess the effectiveness of an extension program related to risk factors, screening, and the impact of hypertension conducted in Bontolebang Hamlet, Kec. Tombolo Pao, Kab. Gowa. This activity involved 30 households with a post-test questionnaire. Data were analyzed using the Fredman Test and showed a significant increase (p=0.000) in respondents' knowledge of hypertension. The study results showed there was a difference in the mean score of knowledge level of hypertension counseling after 8 months of counseling. This study recommends that efforts should be made to increase access to health services for routine blood pressure measurement in the community to reduce the prevalence of hypertension in a sustainable manner.

Keywords : blood pressure; evaluation; hypertension; knowledge

ABSTRAK

Hipertensi merupakan penyebab utama kematian dini di seluruh dunia dengan 1,28 miliar orang dewasa terpengaruh, sebagian besar di negara berpenghasilan rendah dan menengah. Program pengabdian ini bertujuan untuk menilai efektivitas dari program penyuluhan terkait faktor risiko, skrining, dan dampak hipertensi yang dilakukan di Dusun Bontolebang, Kec. Tombolo Pao, Kab. Gowa. Kegiatan ini melibatkan 30 rumah tangga dengan kuesioner post-test. Data dianalisis dengan menggunakan Uji Fredman Test dan menunjukkan adanya peningkatan signifikan (p=0,000) dalam pengetahuan responden tentang hipertensi. Hasil studi menunjukkan ada perbedaan rerata skor tingkat pengetahuan penyuluhan hipertensi setelah 8 bulan pemberian penyuluhan. Pengabdian ini merekomendasikan perlu upaya peningkatan akses ke pelayanan kesehatan untuk pengukuran tekanan darah rutin pada komunitas untuk menurunkan prevalensi hipertensi secara berkesinambungan.

Kata Kunci: *tekanan darah; evaluasi; hipertensi; pengetahuan*

INTRODUCTION

Hypertension is the leading cause of premature death worldwide. An estimated 1.28 billion adults aged 30-79 years worldwide suffer from hypertension, most of whom (two-thirds) live in low- and middle-income countries. An estimated 46% of adults with hypertension are unaware that they have the disease. One of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030 (WHO, 2023). Hypertension occurs when the pressure in your blood vessels is too high (140/90 mmHg or higher). People with high blood pressure may not feel any symptoms. The only way to know is to get your blood pressure checked (WHO, 2023).

Based on SKI 2023 data, the prevalence of hypertension in Indonesia reached 30.8% (SKI, 2023). Data from the Healthy Indonesia Application (ASIK), until 2023 there were 47,405,179 people who had received hypertension screening, as many as 20,938,684 people were in a prehypertensive condition, 13,277,697 people had been diagnosed with hypertension but only 458,924 people had their hypertension under control (Ministry of Health, 2024). Based on the results of the data collection we conducted, it was found that as many as 169 individuals in Bontolebang hamlet, 46 respondents were diagnosed with grade 1 hypertension with a percentage of 47.84%, while those who were not diagnosed with hypertension were 28 respondents with a percentage of 29.12%. Hypertension can be prevented by controlling risky behaviors such as smoking, unhealthy diets such as lack of consumption of vegetables and fruit and excessive consumption of sugar, salt and fat, obesity, lack of physical activity, excessive alcohol consumption and stress (P2PTM, 2019).

According to research of Gamage et al. (2020) good prevention and control of hypertension is by providing health education to the local community. Traditionally, hypertension is reported to occur more in men than in pre-menopausal women, mainly due to the protective hormonal effects in pre-menopausal women (Connelly et al., 2022). One of the causes of high blood pressure is an unhealthy diet and an increasing love for fast food. In addition, the increasing consumption of oil and fatty foods in recent years may have contributed to the increasing prevalence of obesity, as shown by the study of Van et al. (2022). Other factors that may support Adeloye et al.'s research, (2021) are less physical activity, higher overweight/obesity, and a generally higher body mass index.

This Community Service Program aims to make mothers understand hypertension, including definitions, signs, symptoms, causes, long-term effects, prevention, and treatment. The women are expected to spread this knowledge to their families and communities. The benefits of this program are to increase knowledge about hypertension by about 20%, and participants become more knowledgeable and can use herbal plants for the prevention or treatment of hypertension. This program aims to increase public knowledge and understanding of hypertension (Kurniasari & Alrosyidi, 2020).

The purpose of the evaluation was to assess the effectiveness of the counseling program conducted in Bontolebang Hamlet, Tombolo Pao District, Gowa Regency. In addition, the effectiveness of this evaluation aims to assess community knowledge related to hypertension. As well as helping to prevent things that are at risk of developing hypertension.

Figure 1. Evaluation Process of Hypertension Counseling

METHODS

The evaluation method in this service uses mixed methods, namely qualitative and quantitative with the concept of Asset Based Community Development (ABCD) to empower the community, namely by starting from problem identification to empowerment programs. This approach emphasizes the inventory of community assets that support empowerment. Data was collected door to door in Bontolebang Hamlet, Kanreapia Village, Tombolo Pao Sub-district, Gowa Regency, on May 24-28, 2024, with a target of 30 households. Participants were general residents, and the instrument used was a post-test questionnaire to evaluate Hypertension Counseling. The counseling included an overview of hypertension, symptoms of hypertension, causes and complications of hypertension and prevention of hypertension.

The success indicator of this activity is the increase in knowledge of hypertensive respondents after counseling. The expected result of this evaluation activity is that the post-test value on the evaluation is that there is an 80% increase in the knowledge of RT mothers about hypertension. After the data is collected then you analyze the data with the IBM SPSS Statistics 23 application.

RESULTS AND DISCUSSION

Evaluation of hypertension counseling activities involved 30 participants. It was carried out by going door to door, namely visiting every resident's house who had attended hypertension counseling which was held for 5 days (See Figure 1). This evaluation was carried out in a quantitative way, namely by using a questionnaire to measure the level of knowledge of respondents. The instrument consists of 10 statements on a true & false scale related to hypertension knowledge and each statement has a score of 10 if correct. The assets used are individual assets by communicating with the Head of Bontolebang Hamlet regarding our empowerment. The instruments we used included materials during education first, namely an overview of hypertension, symptoms of hypertension, causes and complications of hypertension and prevention of hypertension.

Table 1. Distribution of Respondents Based on Knowledge Level

| Variables	n = 30	Min	Max	Median	Mean $\pm$ STD	Friedman Test
Pre-Test	30	10	80	50,00	49,67$\pm$17,905	
Post Test 1	30	50	100	80,00	77,67 $\pm$13,817	0,000
Post Test 2	30	60	100	85,00	84,67 $\pm$ 11,598	

Based on Table 1 shows that of the 30 respondents who were evaluated, it was found that the average score of respondents' knowledge at Pre-Test was 49.67 with a standard deviation value of 17.905, at Post-Test 1 the average knowledge of respondents was 77.67 with a standard deviation of 13.817, while at Post-Test 2 it was 84.67 with a standard deviation value of 11.598. The results of statistical tests conducted using the Friedman Test obtained a p value = 0.000 which indicates that ($p < 0.05$) then H0 is rejected and Ha is accepted. So we can conclude that there is a difference in the mean score of knowledge level of hypertension counseling after 8 months of counseling.

Figure 2 shows the distribution of respondents on the knowledge score at the time of evaluation, namely a value of 60 as many as 2 people, a value of 70 as many as 4 people, a value of 80 there are 9 people, a value of 90 there are 8 people and a value of 100 there are 7 people. The results of the analysis conducted can be concluded that the level of knowledge post test 2 on hypertension counseling intervention is as many as 30 respondents (100%) have a sufficient level of knowledge because the post test score> 50 points.

Hypertension is a common chronic disease that is associated with a higher risk of cardiovascular and cerebrovascular disease, cognitive impairment, morbidity, and mortality. The prevalence of hypertension increases with age and is increasing globally (Benetos et al., 2019). As many as 23% of elderly people with high blood pressure. The risk of complaints increases due to age, female gender, depression, and history of hospitalization (Liu et al., 2023).

Counseling and education conducted by (Arniat & Rahayu, 2021) provides an understanding of the meaning of hypertension, causes, symptoms and complications caused by hypertension and for people with hypertension are expected to do routine blood pressure checks and undergo treatment. Counseling is the process of delivering information to increase public understanding of certain topics. After counseling, community knowledge increases because information is delivered systematically and relevantly, direct interaction with facilitators, the community is more active and responsive, evaluation of understanding, and the use of posters that facilitate understanding (Manalu et al., 2023).

Figure 2. Distribution of Respondents Based on Knowledge Level
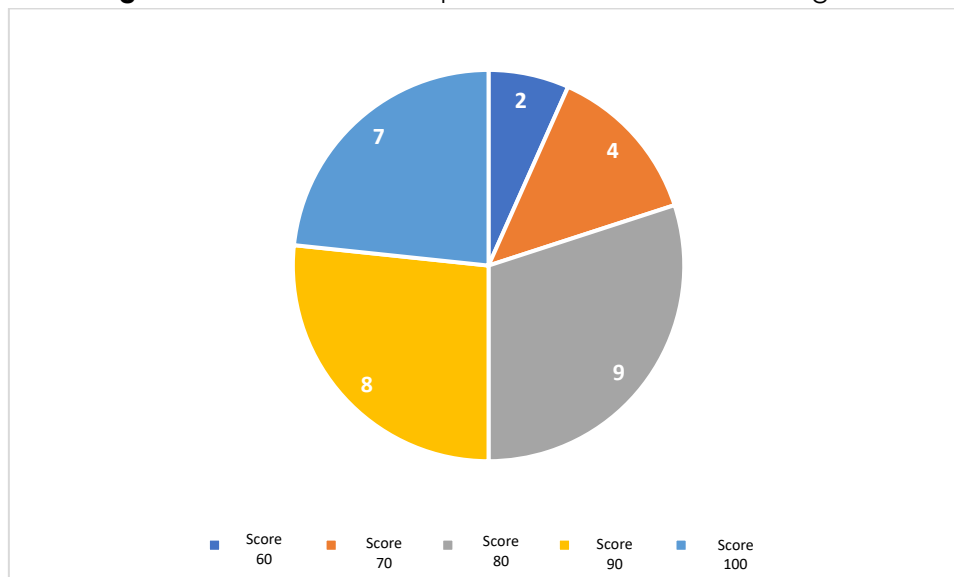
The evaluation in this service was carried out using the door to door method, visiting the homes of residents who had attended the hypertension counseling first. Meanwhile, community service activities carried out in the Holy Village, Manyar District, were carried out in accordance with the plan that had been prepared, including providing counseling with lecture and discussion methods to the elderly in the Holy village. Health counseling for the elderly of uci village discussing the importance of preventing hypertension showed an increase in the understanding of the elderly regarding hypertension in the elderly, including how to make efforts to prevent and control hypertension, especially in the elderly (Umah et al., 2023).

This service is in line with the implementation of the program carried out by Manalu et al., (2023) which concluded that this activity was very effective in increasing public knowledge of hypertension and increasing public awareness to improve lifestyle and awareness of routine health checks. Counseling activities regarding hypertension to 13 respondents of RT.07 Aluh-Aluh Besar Village obtained results in counseling regarding hypertension, there was an increase in knowledge about hypertension with a good category, from before 76.9% and after getting the material to 100% and an increase in attitude with a positive category, from before 92.3% and after getting the material to 100%. It is expected that students in delivering messages / information need to increase the use of communicative and participatory methods. In addition, the process of delivering messages / information in counseling activities with the use of media must be clear, interesting and interactive, so as to improve the quality of the messages conveyed (Athiyya et al., 2021).

The results of observations made on hypertensive patients show that slow deep breathing therapy can reduce pain in the back of the head and create a more relaxed state. Slow deep breathing therapy is suggested as a more effective intervention in reducing high blood pressure because it is simple to do, does not require a lot of equipment, and is easily practiced by anyone (Suib & Mahmudah, 2022). The analysis showed an increase in knowledge about hypertension after health counseling, indicating the success of both intervention programs. Based on research by Nelwan, (2019) that counseling activities on hypertension are associated with increased knowledge, suggesting the need for regular health promotion activities.

Evaluation after hypertension counseling in Anrong Appaka Village showed that respondents' knowledge did not change, indicating that the initial evaluation was not successful. As a follow-up step, reconstruction was carried out by distributing information calendars on causes, symptoms, impacts, and prevention (Darwis et al., 2023). The majority of study participants had an inactive lifestyle, high alcohol consumption, frequent smoking, and an unhealthy diet, which increases the risk of hypertension. Young people with hypertension tend to have smoking, obesity, dyslipidemia, and excessive salt consumption compared to the general population. Addressing these factors, in addition to medication use, is critical for the prevention and management of hypertension, as well as for directing efforts to improve treatment and manage risk factors (Meher et al., 2023).

CONCLUSIONS

The results of the evaluation of hypertension counseling in Bontolebang Hamlet showed that there was a difference in the average score of the level of knowledge of hypertension counseling after 8 months of counseling. In other words, counseling on hypertension was successful. The Panularan Village community is advised to understand the

symptoms, prevention, and treatment of hypertension to prevent and manage the condition well.

REFERENCES

Adeloye, D., Ige-Elegbede, J. O., Ezejimofor, M., Owolabi, E. O., Ezeigwe, N., Omoyele, C., Mpazanje, R. G., Dewan, M. T., Agogo, E., & Gadanya, M. A. (2021). Estimating the prevalence of overweight and obesity in Nigeria in 2020: a systematic review and meta-analysis. *Annals of Medicine*, *53*(1), 495–507.

Arniat, C. T., & Rahayu, Y. (2021). Penyuluhan Dan Edukasi Tentang Penyakit Hipertensi. *Jurnal Abdimas Saintika*, *3*(1). https://jurnal.syedzasaintika.ac.id

Athiyya, N., Fitriani, L., KIA dan Kesehatan Reproduksi, D., Studi Kesehatan Masyarakat, P., Kedokteran, F., Lambung Mangkurat, U., & Selatan, K. (2021). *Penyuluhan Hipertensi Melalui Whatsapp Group Sebagai Upaya Pengendalian Hipertensi*. *4*.

Benetos, A., Petrovic, M., & Strandberg, T. (2019). Hypertension management in older and frail older patients. *Circulation Research*, *124*(7), 1045–1060.

Berlian, R., Aulianisa Hidayat, T., Nugraheni, F., Ilsabil, R., Puspita Anugraini, V., Nurul Azizah, S., Labdaparamarta Liesyanie Putri, F., Khuzaimah, I., Jiantika Ramanindisari, E., Ocha Anggraeni, N., Suryaning Kriswidiyanti, M., Puspita Maya Sari, E., Norma Cahyani, R., Sutarni, S., Astuti, D., Porusia Program Studi Kesehatan Masyarakat, M., Ilmu Kesehatan Universitas, F., & penulis, K. (2022). *Penyuluhan Hipertensi Dengan Media Poster Dan Video Senam Pada Masyarakat Desa Panularan Surakarta*.

Connelly, P. J., Casey, H., Montezano, A. C., Touyz, R. M., & Delles, C. (2022). Sex steroids receptors, hypertension, and vascular ageing. *Journal of Human Hypertension*, *36*(2), 120–125.

Darwis, A. M., Tuwo, N. A., Masitha, Paembonan, O. B., Wirasisth, N., Putri, H., & Aryanti, R. B. (2023). Evaluasi Program Intervensi Penyuluhan Hipertensi Di Kelurahan Anrong Appaka Kecamatan Pangkajene. *Jurnal Pengabdian Kolaborasi Dan Inovasi IPTEKS*.

Gamage, D. G., Riddell, M. A., Joshi, R., Thankappan, K. R., Chow, C. K., Oldenburg, B., & Thrift, A. G. (2020). Effectiveness of a scalable group-based education and monitoring program, delivered by health workers, to improve control of hypertension in rural India: a cluster randomised controlled trial. *PLoS medicine*, *17*(1), e1002997.

Kemenkes. (2024). *Pedoman Pengendalian Hipertensi*.

Kementerian Kesehatan. (2023). SKI. In *Survei Kesehatan Indonesia*.

Liu, H., Zhou, W., Liu, Q., Yu, J., & Wang, C. (2023). Global Prevalence and Factors Associated with Frailty among Community-Dwelling Older Adults with Hypertension: A Systematic Review and Meta-Analysis. *The Journal of Nutrition, Health and Aging*, *27*(12), 1238–1247. https://doi.org/https://doi.org/10.1007/s12603-023-2035-5

Manalu, S. P., Hasibuan, N. H., Sari, Y. A., & Nadhira, A. C. (2023). Penyuluhan Hipertensi di Desa Perkebunan Tanjung Kasau Kabupaten Batu Bara. *Bubungan Tinggi: Jurnal Pengabdian Masyarakat*, *5*(4), 1430. https://doi.org/10.20527/btjpm.v5i4.9472

Meher, M., Pradhan, S., & Pradhan, S. R. (2023). Risk Factors Associated With Hypertension in Young Adults: A Systematic Review. *Cureus*. https://doi.org/10.7759/cureus.37467

Nelwan, J. E. (2019). Pengaruh Penyuluhan Kesehatan Terhadap Perubahan Pengetahuan Masyarakat Tentang Hipertensi Di Kota Manado. In *Journal PHWB* (Vol. 1, Issue 2). http://ejournalhealth.com

P2PTM. (2019). *Hari Hipertensi Dunia 2019: "Know Your Number, Kendalikan Tekanan Darahmu dengan CERDIK*.

Suib, S., & Mahmudah, A. M. (2022). Penyuluhan Hipertensi Dan Slow Deep Breathing Untuk Menurunkan Hipertensi Pada Lansia Di Bpstw Unit Budi Luhur Yogyakarta. *Gemakes Jurnal Pengabdian Kepada Masyarakat*, *2*(1), 31–37. https://doi.org/10.36082/gemakes.v2i1.544

Umah, K., Zahroh, R., Kinarti, Y. M., Program,), Ners, S., Kesehatan, I., Gresik, U., & Keperawatan, S. I. (2023). Penyuluhan Hipertensi Pada Lansia Sebagai Upaya Mencegah Dan Pengendalian Hipertensi Di Posyandu Lansia Di Desa Suci Kecamatan Manyar Kabupaten Gresik. *Jurnal Pemberdayaan Masyarakat Nusantara*, *1*(2), 132–136. https://nafatimahpustaka.org/pengmas/

Van, D. T., Trijsburg, L., Do, H. T., Kurotani, K., Feskens, E. J., & Talsma, E. F. (2022). Development of the Vietnamese healthy eating index. *Journal of Nutritional Science*, *11*, e45.

WHO. (2023, March 16). Hypertension. *World Health Organization*.

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