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Increasing Awareness and Healthy Living Practices in Hypertension Prevention among PKK Mothers in Sragen Regency

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ABSTRACT
Hypertension, a medical condition characterized by high blood pressure, is the most widespread public health problem in the world, with approximately 1.13 billion people worldwide living with hypertension, with prevalence increasing with age and lifestyle changes. PKK mothers have a very important role in efforts to prevent health problems in the community, especially at the village or kelurahan level. The method used in this community service is health education about hypertension using leaflet and video media through the stages of distribution of knowledge questionnaires about (before education), education or counseling, distribution of knowledge questionnaires about hypertension (after education). The implementation of activities took place in Kauman, Masaran, Sragen Regency, Central Java Province. Results The counseling provided on healthy living practices in the prevention of hypertension proved effective in increasing the level of knowledge of participants. There was a significant increase in knowledge scores after counseling, where the majority of participants reached the high knowledge category.

Keywords: health education, hypertension, prevention

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INTRODUCTION

Hypertension, a chronic medical condition characterized by elevated blood pressure, is one of the most prevalent public health challenges worldwide. According to the World Health Organization (WHO), hypertension is a leading risk factor for cardiovascular diseases, stroke, and chronic kidney disease, which collectively account for a significant proportion of global mortality. WHO estimates that approximately 1.28 billion adults aged 30–79 years are living with hypertension, with two-thirds residing in low- and middle-income countries (World Health Organization, 2021).

In Indonesia, hypertension is a major public health issue. Data from the Indonesian Ministry of Health's 2018 Basic Health Research (RISKESDAS) indicates that the prevalence of hypertension among adults is 34.1%, with many cases remaining undiagnosed or

inadequately managed (Kementerian Kesehatan Republik Indonesia, 2018). This high prevalence underscores the need for effective prevention and control strategies to mitigate the burden of hypertension-related complications.

Hypertension is defined as a sustained increase in blood pressure, measured by systolic pressure (the force exerted when the heart contracts) and diastolic pressure (the force when the heart relaxes). According to the 2017 American College of Cardiology (ACC) and American Heart Association (AHA) guidelines, hypertension is diagnosed when systolic blood pressure exceeds 130 mmHg or diastolic blood pressure exceeds 80 mmHg, based on two or more readings taken on separate occasions (Whelton et al., 2018).

Often termed the "silent killer," hypertension frequently presents no noticeable symptoms until significant damage has occurred. Uncontrolled hypertension can lead to severe complications, including increased cardiac workload, vascular damage, and renal impairment, contributing to long-term morbidity and mortality (Mills et al., 2020). Lifestyle factors such as high salt intake, physical inactivity, obesity, and excessive alcohol consumption are major contributors to the rising prevalence of hypertension globally and in Indonesia (Forouzanfar et al., 2017; Widyastuti et al., 2021).

Hypertension-induced damage to blood vessels can result in atherosclerosis, a condition characterized by the thickening and hardening of arterial walls. This increases the risk of cardiovascular events such as myocardial infarction, stroke, and heart failure (Virani et al., 2021). Additionally, hypertension is a leading cause of chronic kidney disease (CKD), as elevated blood pressure damages the renal vasculature, impairing the kidneys' ability to filter waste and regulate fluid balance (Webster et al., 2017). Hypertension can also lead to hypertensive retinopathy, a condition that damages the blood vessels in the retina and may result in vision loss if untreated (Wong & Mitchell, 2007).

A healthy lifestyle is critical in preventing and managing hypertension. Interventions such as reducing salt intake, increasing physical activity, maintaining a healthy weight, and avoiding tobacco and excessive alcohol consumption have been shown to significantly lower blood pressure and reduce the risk of complications (Appel et al., 2020). Community-based health programs, particularly those targeting high-risk populations, play a vital role in promoting awareness and encouraging behavioral changes.

In Indonesia, organizations such as the Family Welfare Movement (PKK) are instrumental in addressing public health challenges like hypertension. PKK, a community-based organization focused on family empowerment, engages in health promotion activities, including education on healthy lifestyles and disease prevention. By collaborating with local health authorities and community leaders, PKK helps disseminate health information and improve access to preventive services (Sutarto, 2019; Sari & Wulandari, 2021).

The high prevalence of hypertension highlights the urgent need for comprehensive strategies to enhance prevention, early detection, and management. Public health initiatives, including regular blood pressure screenings, community education programs, and improved access to affordable antihypertensive medications, are essential to reducing the burden of hypertension and its complications. By raising awareness and fostering collaboration between government agencies, healthcare providers, and community organizations, Indonesia can make significant strides in combating this silent epidemic.

METHODS

The community service activity employed a counseling and health education approach to raise awareness about hypertension, utilizing leaflet media and videos. The program followed a structured series of stages to ensure effective learning and engagement.

The first stage involved distributing a pre-education knowledge questionnaire to assess participants' understanding of hypertension. This questionnaire covered various aspects, including general knowledge about hypertension, its causes, symptoms, prevention methods, and personal experiences in managing hypertension symptoms.

The education and counseling session was structured into several key steps. The introduction phase, lasting 10 minutes, aimed to engage participants by posing thought-provoking questions, emphasizing the importance of maintaining normal blood pressure, and outlining the session's objectives. The core activity, lasting 30 minutes, included a comprehensive explanation of hypertension using posters, PowerPoint presentations, and videos. Participants were divided into groups to discuss the causes and symptoms of hypertension, followed by a Q&A session to address any doubts. Additionally, a hands-on simulation was conducted where participants designed a healthy food menu suitable for individuals with hypertension. The session concluded with a five-minute closing segment, where key points were summarized, reflections were encouraged, and a post-education questionnaire was distributed to assess knowledge improvement.

This community service activity took place on November 20, 2024, in Kauman, Masaran, Sragen Regency, Central Java Province. The methodology incorporated two main approaches: health education and community empowerment. Health education involved direct counseling and training to enhance participants' knowledge and skills in managing hypertension. Meanwhile, the community empowerment approach sought to build the community's capacity to address health challenges independently, encouraging active participation in designing and implementing health-related initiatives.

The program design began with problem identification through discussions with the head of the local PKK. Based on these findings, clear objectives were set to focus on hypertension prevention and its complications. The activity planning phase ensured that the program was well-structured and involved the community, particularly PKK mothers in Masaran, Sragen.

The implementation phase included delivering health education materials on hypertension prevention, covering topics such as its definition, causes, signs and symptoms, complications, and preventive measures. Sampling was conducted through a registration process, where participants signed an attendance list and completed a pre-education questionnaire before engaging in the session. The program concluded with a post-education questionnaire to measure the impact of the activity. A total of 40 participants actively participated from start to finish, demonstrating a strong community interest in the initiative.

RESULTS

This community service activity focuses on health education on the prevention of hypertension in PKK mothers. Health education provided to PKK mothers has a very strategic goal in improving the quality of life of the community, especially at the family level. The main objectives of this health education are:

1. Increase knowledge and awareness: Provide a comprehensive understanding of various health issues, ranging from nutrition, communicable diseases, to non-communicable diseases, especially hypertension;
2. Shaping healthy behaviors: Encourage PKK mothers to adopt healthy living behaviors, such as a balanced diet, regular exercise, and maintaining environmental hygiene;
3. Strengthening the role as agents of change: equipping PKK women with the knowledge and skills to become agents of change in their neighborhoods, so that they can inspire their families and surrounding communities to live healthy lives;

4. Improving the quality of family life: by applying the health knowledge gained, it is hoped that the quality of family life can improve, both in terms of physical and mental health;
5. Supporting government programs: Health education for PKK mothers is in line with government programs to improve the health status of the community.

The following are the results of data analysis, including the distribution of participants by age, occupation and education, the distribution of knowledge levels before and after health education, and the results of paired t-test to measure the difference in knowledge before and after the intervention.

Table 1. Respondent Characteristics

Characteristics		Frequency	Percentage
Age	≤40 years	12	30.00
	>40 years	28	70.00
Jobs	Not working formally	24	60.00
	Work	16	40.00
Education	Not in school	8	20.00
	Formal schooling up to primary level (SD)	12	30.00
	Formal schooling up to advanced level (junior and senior high school)	15	37.5
	Formal schooling to an advanced level (university)	5	12.5

Table 1 shows the characteristics of respondents based on age, occupation, and education. The majority of respondents were over 40 years old, as many as 28 people (70.00%), while respondents aged 40 years and under only numbered 12 people (30.00%). In the employment variable, respondents who did not work formally were more dominant with 24 people (60.00%), compared to those who worked formally with 16 people (40.00%). Based on the level of education, most respondents had formal schooling up to an advanced level (junior and senior high school), namely 15 people (37.5%), followed by respondents who had formal schooling up to an elementary level (elementary school) as many as 12 people (30.00%). Respondents who did not attend school amounted to 8 people (20.00%), and those with formal schooling up to university level were 5 people (12.5%). This data shows that the majority of respondents in this study were over 40 years old, not formally employed, and had formal education up to junior or senior high school.

Figure 1
Participants/Respondents: Registration and questionnaire filling guide

Table 2. Distribution of Knowledge Level of Participants Before and After Counseling on Healthy Living Practices in Hypertension Prevention

Variables	Category	Before		After	
		Frequency	Percentage	Frequency	Percentage
Knowledge	0-50	23	57.5	3	7.5
	>75	17	42.5	37	92.5

Based on Table 2, the distribution of participants' knowledge level before and after counseling on healthy living practices in the prevention of hypertension showed a significant increase. Before counseling, the majority of participants had a low level of knowledge (0-50), as many as 23 people (57.5%), while only 17 people (42.5%) had a high level of knowledge (>75). However, after counseling, the majority of participants were in the high knowledge level category (>75), as many as 37 people (92.5%), with only 3 people (7.5%) who remained in the low knowledge category.

DISCUSSION

This increase can be attributed to the characteristics of the respondents in this study. Most respondents were older than 40 years old (70.00%) and not formally employed (60.00%), who may have more time to attend the counseling and absorb the materials provided. In addition, although the majority of respondents had formal education levels up to junior or senior high school (37.5%), the counseling was effective in improving their knowledge on healthy living practices in the prevention of hypertension. This suggests that counseling can be an effective intervention to increase health awareness, especially among older adults and those with secondary education levels.

In previous counseling efforts conducted in other communities, improvements in participants' knowledge levels were also reported; however, the extent of the increase and the influencing factors varied. Some earlier programs faced obstacles such as low participant attendance due to work commitments or less engaging counseling methods, which limited their effectiveness. In contrast, the current activity showed a significant improvement in knowledge, likely supported by participant characteristics such as older age, unemployment status, and moderate education level, which may have facilitated greater availability and receptiveness to the counseling sessions. By identifying these supporting factors and comparing them with challenges encountered in past activities, future community service programs can be better designed to maximize impact and minimize barriers to success.

Figure 2
Health Education

CONCLUSION

The results of the data analysis reveal important insights into the characteristics of the extension program participants, the effectiveness of the counseling, and its broader implications. Most of the participants were individuals over the age of 40, not formally employed, and had attained a secondary education level, such as junior high school or high school. This demographic pattern suggests that older individuals with flexible schedules are more likely to engage in community-based health education programs.

The counseling provided on healthy lifestyle practices, particularly in the prevention of hypertension, proved to be highly effective in increasing participants' knowledge. A significant improvement in their understanding was observed, with most participants reaching a high level of knowledge post-counseling. This improvement indicates that the materials presented were both relevant and easy to understand, despite the diverse educational backgrounds of the participants. Furthermore, the availability of time among older individuals and those without formal employment allowed them to engage more deeply with the content, facilitating better knowledge absorption.

These findings highlight the crucial role of community-based health counseling in promoting awareness and behavioral change. Targeted education, especially among specific groups such as PKK members, has proven to be an effective strategy in disseminating health-related information. The relevance of the materials used is equally important, as simplifying language and incorporating engaging media can enhance the learning experience. Given the increased risk of non-communicable diseases such as hypertension among older adults, they should be prioritized in future health promotion programs. Moreover, PKK members, as influential figures in their communities, have the potential to serve as agents of change, encouraging healthier lifestyles within their social circles.

To ensure the continued success and improvement of extension programs, regular evaluations should be conducted to assess their impact and identify areas that need enhancement. A variety of teaching methods, including lectures, group discussions, and visual media, can make learning more interactive and engaging. Actively involving the community in both the planning and implementation of these programs can foster a sense of ownership and increase participation. Additionally, collaboration with healthcare institutions such as community health centers, hospitals, and non-governmental organizations can help expand the reach and impact of these initiatives.

Health education remains a powerful tool in improving public knowledge about disease prevention and healthy living. With strategic planning and consistent implementation, extension programs can make a significant contribution to public health, fostering long-term behavioral changes that benefit individuals and communities alike.

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