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Educational Movement Against Hypertension and Diabetes (Gemes) in Prolanis Members

Gerakan Edukasi Mencegah Hipertensi dan Diabetes (Gemes) pada Anggota Prolanis

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Abstrak

Cakupan Standar Pelayanan Minimal (SPM) hipertensi dan diabetes di Puskesmas Air Putih masih rendah, masing-masing 11,31% dan 26%, jauh di bawah target 100%. Program GEMES (Gerakan Edukasi Mencegah Hipertensi dan Diabetes) dilaksanakan pada 1 Februari 2025 dengan 14 peserta (8 anggota Prolanis, 6 pengunjung). Program tersebut bertujuan untuk meningkatkan pengetahuan masyarakat, khususnya anggota prolanis mengenai pentingnya pola hidup sehat dalam menjaga kestabilan tekanan darah dan kadar gula. Metode yang digunakan berupa penyuluhan dengan rangkaian kegiatan meliputi pre-test, pembagian leaflet, pemaparan materi, tanya jawab, post-test, dan pemberian reaction. Hasil evaluasi menunjukkan adanya peningkatan pengetahuan peserta dengan nilai uji Wilcoxon p = 0,002 (<0,05), sehingga terbukti signifikan. Temuan ini menunjukkan bahwa intervensi sederhana melalui edukasi kesehatan mampu meningkatkan pemahaman masyarakat mengenai hipertensi dan diabetes melitus. Untuk keberlanjutan, penyuluhan disarankan dilakukan secara rutin, melibatkan tenaga kesehatan lintas profesi, serta mengembangkan materi dan menggunakan media edukasi yang lebih menarik guna memperluas jangkauan dan efektivitas program.

Kata kunci: Diabetes melitus, hipertensi, edukasi kesehatan, program GEMES, prolanis

Abstract

The coverage of Minimum Service Standards (SPM) for hypertension and diabetes at the Air Putih Community Health Center is still low, at 11.31% and 26% respectively, far below the target of 100%. The GEMES (Movement for Education on Hypertension and Diabetes Prevention) program was implemented on February 1, 2025, with 14 participants (8 Prolanis members and 6 visitors). The program aimed to increase public knowledge, especially among Prolanis members, about the importance of a healthy lifestyle in maintaining stable blood pressure and blood sugar levels. The method used was counseling with a series of activities including a pre-test, distribution of leaflets, presentation of material, question and answer session, post-test, and feedback. Evaluation results showed an increase in participants' knowledge with a Wilcoxon test value of p = 0.002 (<0.05), indicating a significant improvement. These findings indicate that simple interventions through health education can improve public understanding of hypertension and diabetes mellitus. For sustainability, it is recommended that education be conducted regularly, involving health professionals from various fields, and that materials be developed and more attractive educational media be used to expand the reach and effectiveness of the program.

Keyword: Diabetes mellitus, GEMES program, health education, hypertension, prolanis

1. Introduction

Non-communicable diseases (NCDs), are types of diseases that cannot be transmitted from one person to another. These diseases are usually triggered by various risk factors, have a long development period, and tend to be persistent, which can cause bodily dysfunction and even disability. A complete cure is generally difficult to achieve. Each year, NCDs cause more than 41 million deaths, accounting for approximately 74% of all deaths worldwide. In addition, many people with NCDs must live with declining health. Some of the types of NCDs that cause the most deaths are cardiovascular diseases (such as heart disease and stroke; 17.9 million

deaths per year), cancer (9.3 million deaths per year), chronic respiratory diseases (such as COPD and asthma; 4.1 million deaths per year), and diabetes mellitus (2 million deaths per year) [1]

Based on the 2018 Basic Health Research, the prevalence of hypertension in Indonesia in 2018 was 34.1%, an increase from 2013 of 25.8% and it is estimated that only 1/3 of hypertension cases in Indonesia are diagnosed, the rest are undiagnosed. Hypertension if not treated properly can lead to complications of heart disease, stroke, kidney disease, neurological disorders, brain disorders, peripheral vascular disease and kidney disease [2].

The prevalence of diabetes in Indonesia continues to increase. In 2017, Indonesia ranked sixth in the world with approximately 10.3 million people suffering from diabetes. This condition is in line with the findings of the 2018 Basic Health Research (Riskesdas), which showed an increase in the prevalence of diabetes from 6.9% to 8.5% [3]. Indonesia occupies the 5th position in the world in terms of the number of people with diabetes [4].

According to data from the International Diabetes Federation (IDF), 19.5 million Indonesians aged 20-79 years were diagnosed with diabetes in 2021. Projections show that this number could increase to 30 million people by 2030 if there are no effective control efforts. Although diabetes is a disease that can't be completely cured, the condition can still be controlled. High and uncontrolled blood sugar levels can result in serious damage to blood vessels. According to the World Health Organization (WHO), diabetes is a major factor that causes a variety of serious complications such as blindness, kidney failure, heart attack, hypertension, and lower limb amputation [2].

Increasing public understanding of hypertension and diabetes is an important step in efforts to reduce the prevalence of both diseases. One effective way is through health counseling activities. Counseling is part of health education in predisposing factors, with the main objective of raising awareness and improving the knowledge and attitudes of the community. In its implementation, counseling can be done through three different methods: individual approaches aimed at individuals, group approaches, and mass counseling targeting the wider community [2].

According to Minister of Health Regulation No. 4/2019 on Technical Standards for Fulfilling the Quality of Basic Services at Minimum Service Standards in the Health Sector, Minimum Service Standards (MSS) are the basis for services provided by health centers. These standards define the type and quality of services, to which every citizen is legally entitled to receive necessary services of adequate quality. In addition, service quality targets for each type of basic service in the health MSS are set to reach 100% [5].

Air Putih Health Center is a health center located in Samarinda Ulu Sub-district, Samarinda City. Minimum Service Standards (MSS) for hypertension and diabetes services at Puskesmas Air Putih have not been achieved according to MSS coverage data in 2024, which reached 11.31% for hypertension and 26% for diabetes mellitus, so there is a need for improvement in services [6]. This shows the importance of innovation in more engaging and effective educational methods, making it necessary to conduct outreach on hypertension and diabetes at the Air Putih Community Health Center to increase knowledge among the surrounding community, support the achievement of MSS, and encourage prevention efforts for both diseases.

As an innovative effort, students with the support of the Air Putih Community Health Center implemented the GEMES (Healthy Community Education Movement) program to increase public knowledge about hypertension and diabetes. Unlike regular health education, GEMES combines verb al communication of health messages with leaflets, and is supplemented with interactive evaluations using emojis. Through this method, participants can convey their understanding and responses in a simple but effective manner. The GEMES innovation makes health education more engaging, participatory, and easier for the community to understand.

2. Materials and Method

In carrying out this health counseling activity, students as instructors and facilitators work together with health workers at the Air Putih Health Center, such as: administrative staff, epidemiology staff, and health promotion staff in the preparation and implementation of activities. The implementation of this counseling uses the lecture method using leaflet media about diabetes mellitus and hypertension. This event lasted for 30 minutes and was attended by 14 participants consisting of 8 Prolanis members and 6 Puskesmas visitors who were registered as PROLANIS members. In this analysis, the Wilcoxon test was used to see whether there was a difference in knowledge between participants before and after they were given material related to hypertension and diabetes.

The figure above is a flow chart of the counseling stages starting from the pre-test session to the reaction session as the participants' reaction to the entire counseling activity. This series of activities is expected to help participants increase their knowledge related to diabetes mellitus and hypertension.

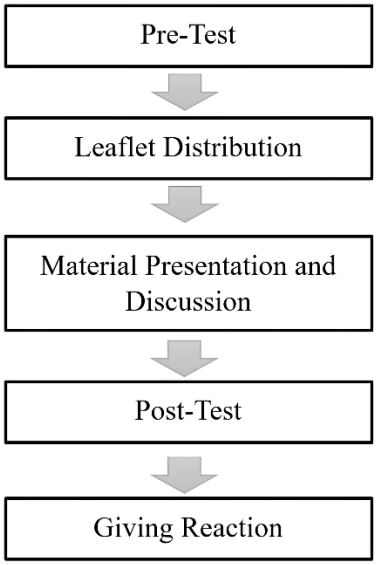

Figure 1. Flow Chart of Health Counseling Stages

2.1 Pre-Test

The initial stage of the activity was the pre-test. This pre-test was conducted to provide an initial picture of the extent of participants' knowledge of these diseases before receiving counseling materials [7]. The pre-test contains 10 questions on a true and false question sheet about understanding, symptoms, causes, and how to keep blood pressure and blood sugar stable.

Figure 2. Pre-test Completion

2.2 Leaflet Distribution

Furthermore, the distribution of leaflet media. Leatflet media is an extension tool in the form of brochures or leaflets that contain important information that is packaged in a concise, clear, and easy to understand. The use of leatflets as visual extension media allows people to re-read and understand the material independently [8].

The use of media assistance in health counseling, one of which is leaflets, can make counseling run more effectively. The eyes are the most dominant five senses in conveying information to the brain so that knowledge about hypertension and diabetes mellitus can be better understood [9]. The material listed on the leaflet consists of definitions, symptoms, risk factors, impacts, causes, how to maintain stable blood pressure and blood sugar and how to do hypertension and diabetes exercises.

Figure 3. Leaflet Media Distribution

2.3 Material Presentation and Discussion

Material presentation and questions and answers are the core activities of the GEMES program which contains the delivery of material on hypertension and diabetes mellitus and then continued with a question and answer session or discussion. This session was assisted by health promotion personnel to answer questions that could not be answered by students. The material presented is as follows.

1. Definition of hypertension and diabetes mellitus
2. Symptoms of hypertension and diabetes mellitus
3. Risk factors for hypertension and diabetes mellitus
4. Causes of hypertension and diabetes mellitus
5. Classification of hypertension grades
6. Results of blood sugar level examination in diabetes mellitus
7. How to maintain the stability of blood pressure and blood sugar levels
8. Anti-hypertension gymnastics and diabetes mellitus foot gymnastics

Figure 4. Material Presentation and Discussion

2.4 Post-Test

After that, it was followed by filling in the post-test. The post-test contains 10 questions on a true-false question sheet with the same questions as the pre-test. This post-test aims to assess the improvement of participants understanding after receiving counseling materials [7]. The results of the pre-test and post-test will be /statistically tested to see if there is a difference in knowledge before and after attending counseling.

Figure 5. Post-test Completion

2.5 Giving Reaction

In the last session, a reaction was given using frown, flat, and happy emoji stickers as the participants reaction to the entire counseling activity. Previous research shows that the use of emojis in a health context can provide valuable insights into communication effectiveness and people's understanding of the information conveyed [10].

Figure 6. Emoji Reaction Giving

3. Results and Discussion

The GEMES program (Educational Movement to Prevent Hypertension and Diabetes) is a public health program that contains counseling activities with the aim of increasing knowledge to the community, especially Prolanis members regarding hypertension and diabetes mellitus. This activity was held on Saturday, February 1, 2025 at Air Putih Health Center, Samarinda City, which was attended by 14 participants consisting of 8 Prolanis (Chronic Disease Management Program) members and 6 visitors to Air Putih Health Center.

The following are the characteristics of respondents based on age and gender, as follows.

Table 1. Characteristics of Respondents Based on Age and Gender

No	Variabel	n	%
1.	**Usia (Tahun)**		
	30 – 39	2	14,3
	40 – 49	3	21,4
	50 – 59	6	42,9
	> 60	3	21,4
2.	**Jenis Kelamin**		
	Laki-laki	3	21,5
	Perempuan	11	78,6
	Total	**14**	**100**

Based on the data contained in table 1, it shows that the majority of ages who participated in the activities were aged 50 to 59 years as many as 6 people (42.9%) while the majority of gender who participated in the activities were women as many as 11 people (78.6%).

Health counseling is an effort made in order to increase a person's knowledge or ability related to health [11]. In counseling, you can use media to make it easier to capture information. A person's knowledge can be influenced by the information he receives so that the provision of attractive educational materials is a very strong supporting factor in health counseling [12]. One of the media that can be used is a leaflet.

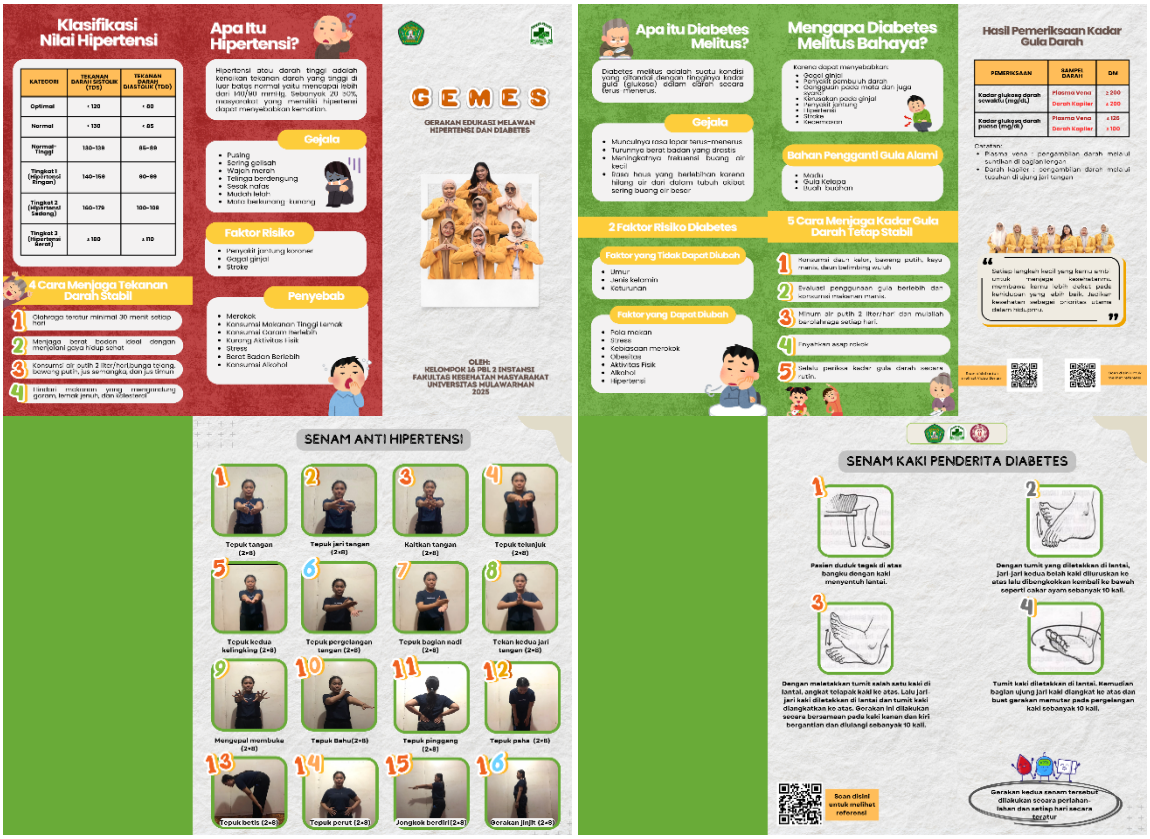

Figure 7. Leaflet Media Used

Based on research conducted by [13], it shows that the use of leaflet media has proven effective in increasing knowledge about hypertension. This is reinforced by research conducted by [14] that leaflet media

is also effectively used in counseling to increase public knowledge about hypertension. In addition, these two studies are in line with research conducted by [8] which shows that counseling using leaflets can provide an increase in knowledge and a higher attitude in mothers in supporting exclusive breastfeeding than without leaflets.

The use of leaflet media has advantages in counseling education activities related to hypertension and diabetes mellitus where the material is presented systematically to facilitate participants' understanding of the material to be delivered, during the distribution of leaflets participants showed high enthusiasm and were actively involved in discussing hypertension and diabetes, this is in line with research conducted [15] in his research there was an increase in knowledge of the material delivered using leaflet media assistance. The use of leaflet media has proven effective as an educational tool because it is practical, easy to understand, and able to convey information systematically about obtaining, using, storing, and disposing of drugs properly.

Based on the discussion above, it shows that the counseling method using leaflet media is an effective program in increasing the knowledge of Prolanis members regarding hypertension and diabetes mellitus. This is due to the leaflet media which is visual, attractive, systematic, and can be brought home so that it can be read repeatedly and understood better.

To measure success, this program uses input, process, and output evaluation. The input evaluation included all facilities that were in good condition and could be operated normally, namely 1 laptop, 1 LCD screen and projector, 2 microphones, 3 long chairs, 45 emoji stickers, 3 cellphone cameras, 15 pens and 15 pre-test and post-test sheets. The infrastructure used to carry out counseling is the waiting room or registration lobby of Air Putih Health Center. In addition, the involvement of Air Putih Health Center health workers, such as: epidemiology workers in logistical preparation, health promotion workers who help answer questions from participants, and field supervisors who coordinate the entire series of events, so that the entire education process can be carried out effectively.

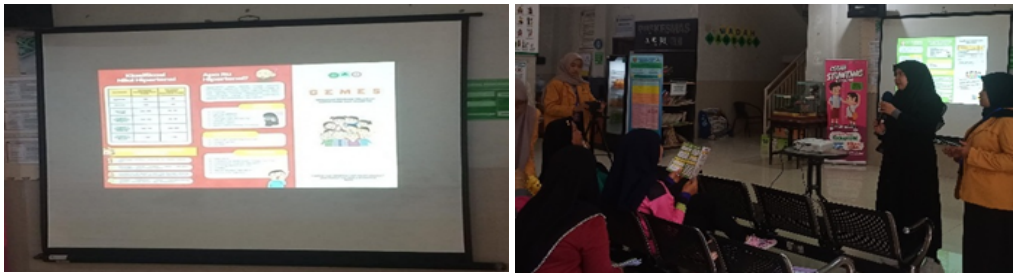

Figure 8. Input Evaluation

The process evaluation, namely the implementation of this program, ran 30 minutes faster than the initial plan due to the Prolanis gymnastics activities that finished earlier. Based on observations during the activity, there was high enthusiasm from the participants which was reflected through active involvement by providing positive responses through participation in discussions, willingness to answer questions, and activeness in asking questions related to the material presented.

Figure 9. Process Evaluation

Furthermore, the output evaluation used pre-test post-test results and emoji sticker reactions such as frown, flat, and happy emojis. Based on the evaluation results with emoji reaction, it was found that 14 participants gave a happy response to the program.

Figure 10. Participant Emoji Reaction Results

The results of the pre-test and post-test will be carried out Wilcoxon Test because the data is not normally distributed, the following are the results of the Wilcoxon Test:

Table 2. Wilcoxon Test Results of Changes in Knowledge of GEMES Program Participants

		N	Mean Rank	P. value
Post-test-Pre-test	Negative Ranks	0[a]	.00	.002
	Positive Ranks	12[b]	6.50	
	Ties	2[c]		
	Total	14		

Based on the table above, it shows that the pre-test and post-test scores have increased, namely 12 people and 2 people did not experience an increase. This shows that the majority of participants experienced an increase in understanding after being given counseling education. In addition, the test results show that the p.value is 0.002, which means that the p.value is smaller than the α value, which is 0.002 <0.05, so H0 is rejected so it can be concluded that there is a significant difference in the knowledge of participants before and after receiving material about hypertension and diabetes mellitus.

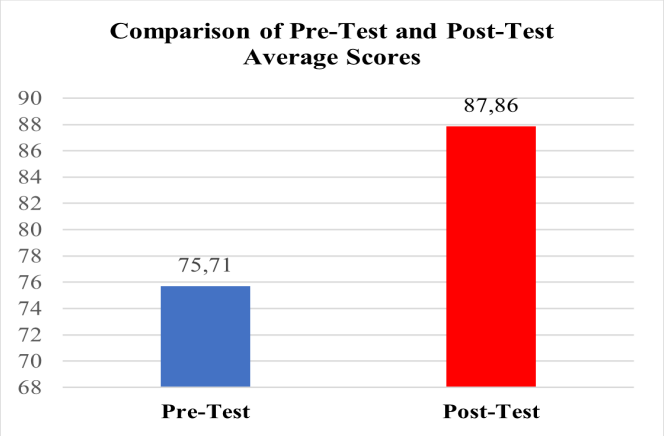

Figure 11. Comparison of Pre-Test and Post-Test Average Scores

The graph above shows an increase in participants' knowledge about diabetes mellitus and hypertension after receiving education. This can be seen from the average knowledge score before education, which was 75.71, increasing to 87.86 after education.

The results of this program are in line with research conducted by Dhea Rizky Padila, Neti Juniarti, and Farah Najwa, which shows a significant difference in the level of public knowladge about hypertension before and after health education was provided in Babakan Sari, Bandung City, with a p-value of 0,019 (p<0,05) [16]. Furthermore, research conducted by Listy Handayani also supports these findings, where health education was proven to significantly increse respondents knowledge about hypertension with a p-value of 0,001 (p<0,05), so it can be concluded that there was a significant difference in knowledge before and after the intervention was carried out [17].

The success of increasing participants' k nowledge was influenced by several supporting factors. First, the use of leaflets as an effective educational tool helped increase public knowledge about hypertension and diabetes mellitus. This is in accordance with research by Widi Prihartono, which shows that the use of leaflets is effective in increasing public knowledge about hypertension. Second, the active participation of participants

in question and answer sessions or direct discussions with the presenter increases participants' understanding and the effectiveness of the counseling[13]. Third, the involvement of health promotion personnel from the community health center as a mediatorbetween the presenter and the community, health promotion personnel actively answer questions or discussions that cannot be answered by the students.

While the activities showed positive results, there were challenges faced during the counseling sessions. The limited space for counseling sessions in the health center waiting room caused participants to become easily distracted, thereby reducing the effectiveness of the counseling material delivery. The waiting room, which was combined with the registration area, could cause participants to lose concentration during the counseling activities. Research conducted by Dwi Angelica Safitri and Dewi Mardahlia states that limitations in facilities and infrastructure affect the effectiveness of services and patient comfort, leading to an increased workload and a potential decline in service quality [18].

The results of this activity are in line with research conducted by [19] in the Panyileukan Health Center work area where using counseling education is proven to increase participant knowledge. In addition. this research is also in line with that conducted [20] with the Lameru Health Center in Jatibali Village, where participants were satisfied with the counseling conducted because it could increase the knowledge of participants as evidenced by the evaluation using pre-test and post-test, the provision of this education aims to promote healthy living, which needs to be done regularly as one of the prevention efforts which is the most important part in the management of hypertension.

Similar research was conducted by [21] in the Banguntapan III health center work area, Bantul, Yogyakarta, that participants experienced a significant increase in knowledge which indicated that the purpose of this intervention was to increase participants knowledge related to non-communicable diseases, namely hypertension effectively. The change in knowledge was supported by the provision of counseling education to participants which involved some assistance from the health center staff so that it was proven that the counseling education carried out was able to increase participants knowledge.

4. Conclusion

The evaluation results showed a significant increase in knowledge in participants, with a p-value generated from the Wilcoxon Test of 0.002, indicating a significant difference between knowledge before and after counseling. In other words, participants showed an increase in knowledge about the causes, symptoms, and ways to maintain stable blood pressure and sugar levels for people with hypertension and diabetes, as well as the importance of a healthy lifestyle, with the use of leaflet media which is effective for conveying information systematically and effectively.

For program sustainability, periodic counseling can be conducted to provide the latest information on hypertension and diabetes, strengthen knowledge, and encourage positive behavior change by involving other health workers. To maintain participants' interest, attractive materials with visual and interactive elements should also be utilized so that educational messages can be delivered more effectively. Furthermore, the sustainability of the program can be reinforced by involving local communities as active partners. For instance, health cadres, youth organizations, or PKK women's groups can be trained to apply simple educational media such as educational games, simulations, and small group discussions. In this way, health messages are not only received passively but also practiced through interactive and continuous direct experiences, ensuring that the program has a lasting impact

5. Acknowledgments

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