



## Patient Education About Drug Side Effects on Compliance in Taking Antihypertension Medication: A Rapid Review

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Article Info	Abstrak
<b>Article History:</b> Submitted 2025-06-10 Revised 2025-06-20 Accepted 2025-06-22	Kurangnya kebiasaan menjaga kebersihan pribadi pada remaja putri dapat meningkatkan risiko munculnya berbagai masalah kesehatan, khususnya yang berkaitan dengan sistem reproduksi wanita seperti kanker serviks. Berdasarkan data dari Global Center Observatory (2022), tercatat sebanyak 662.301 kasus kanker serviks di seluruh dunia (14,1%), dengan angka kematian mencapai 348.874 kasus atau sekitar 7,1%. Tujuan dari penelitian ini menganalisis efektivitas kartu Truth or Dare dalam meningkatkan motivasi remaja SMKN 14 Samarinda dalam menjaga kesehatan reproduksi wanita. Penelitian ini menggunakan jenis pre-eksperimental dengan desain One Group Pretest-Posttest. Penelitian ini melibatkan 67 siswi sebagai sampel, yang dipilih menggunakan teknik total sampling. Analisis data menggunakan uji Wilcoxon menunjukkan peningkatan motivasi siswi dalam kategori tinggi dari 69,8% menjadi 100%, serta peningkatan sikap positif dari 73% menjadi 96,8% setelah intervensi. Media kartu Truth or Dare terbukti efektif meningkatkan motivasi menjaga kesehatan reproduksi, dengan nilai signifikansi $p = 0,000$ . Disimpulkan bahwa media ini berpengaruh terhadap peningkatan motivasi siswi di SMKN 14 Samarinda.
<b>Kata Kunci :</b> Pendidikan kesehatan, <i>truth or dare</i> , motivasi, kesehatan reproduksi	
<b>Keywords:</b> <i>Health education, truth or dare, motivation, reproductive health</i>	
DOI : -	<b>Abstract</b> <i>The lack of personal hygiene habits among adolescent girls can increase the risk of various health problems, particularly those related to the female reproductive system, such as cervical cancer. According to data from the Global Cancer Observatory (2022), there were 662,301 cases of cervical cancer worldwide (14.1%), with 348,874 deaths or approximately 7.1%. This study aims to analyze the effectiveness of the Truth or Dare card media in increasing the motivation of female students at SMKN 14 Samarinda to maintain reproductive health. This research employed a pre-experimental method with a One Group Pretest-Posttest design. A total of 67 students were selected using total sampling. Data analysis using the Wilcoxon test showed an increase in the percentage of students with high motivation from 69.8% to 100%, and positive attitudes from 73% to 96.8% after the intervention. The Truth or Dare card media proved effective in enhancing motivation to maintain reproductive health, with a significance value of <math>p = 0.000</math>. It can be concluded that this media positively influences the motivation of female students at SMKN 14 Samarinda.</i>

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## INTRODUCTION

Hypertension is called the “killer” “silent” because the symptoms are often without complaints. Usually the sufferer does not know if he has hypertension and is new it is known that he suffers from hypertension after complications occur. Most people feel healthy and energetic despite hypertension, This situation is certainly very dangerous and can causing sudden death in society. Hypertension is a cause the third leading cause of death after stroke and tuberculosis, which reached 6.7% of death population at all ages in Indonesia. Hypertension is a disorder circulatory system that causes increase in blood pressure above normal (Ministry of Health, 2018). Hypertension is non-communicable diseases that become global public health problem, regional, national and local (Fauziah *et al.*, 2021).

Hypertension is a disease chronic with high prevalence. Data from WHO, hypertension attacks 22% of cases world population, in Southeast Asia alone has the incidence of hypertension reached 36% (WHO, 2018). In 2025, it is predicted that people will adults around the world will experience hypertension as much as 29% (WHO, 2018). According to the results of the 2018 Basic Health Research (Riskesdas), it shows that The prevalence rate of hypertension in the population aged > 18 years in Indonesia is 34.1%. The prevalence was obtained by measuring blood pressure. namely when blood pressure >140/90 mmHg. This prevalence rate is higher than in 2013, which was 25.8%. South Kalimantan Province has a figure of the highest prevalence was 44.13% followed by West Java at 39.6% and East Kalimantan by 39.3%. Based on the results data Ministry of Health in 2018 the incidence rate hypertension in the

elderly in Indonesia for ages 55- 64 years old is 45.9%, 65-74 years old is 57.6% and 63.8% for ages over 75 years (Ministry of Health of the Republic of Indonesia, 2019).

Old age has triggers for this to happen age risk, in hypertension disease the factor that what must be considered is a healthy lifestyle regularly controlling blood pressure, as well do to minimize the causative factors such as good diet and lifestyle. Hypertension sufferers who modify their lifestyle in controlling their blood pressure only there are 30% of the number of hypertension sufferers (Surayitno *et al.*, 2020). In hypertensive patients who not maintaining a healthy diet and lifestyle unhealthy will be a risk of occurrence recurrence in hypertension, recurrence in old age is influenced by several factors factors both from within and from outside (Fitrianingshi *et al.*, 2022).

Healthy lifestyle in the form of reducing weight body, adopting the DASH (*Dietary Approach to Stop Hypertension*), doing activities physical, avoiding alcohol, caffeine, and other habits smoking so as not to cause severe hypertension which may be accompanied by dangerous complications (Sinaga *et al.*, 2018). Lifestyle influences elderly life. An unhealthy lifestyle can causes hypertension, in the form of consumption foods that are not in accordance with a hypertension diet, activities physical, stress and smoking. Based on clinical studies and observation shows a person's lifestyle related to morbidity and mortality rates cardiovascular (Umam, 2021).

Compliance is one of the main supporting factors for achieving therapeutic effects. hypertension treatment. Non-compliance of hypertensive patients in taking medication can increase morbidity,

mortality, and health care costs. Percentage of people who do not drink regularly hypertension patients in Indonesia are 32.3% and the highest reason is not taking it regularly medicine is feeling healthy (59.8%) (Indonesian Ministry of Health, 2018).

Dealing with hypertension patients is necessary their self-care compliance for improve health. Self-care hypertension includes a low salt diet, reducing alcohol consumption, not smoking, exercise or physical activity, and consumption of antihypertensive drugs. One thing that affects patient self-care hypertension is self-efficacy. Hypertension sufferers who having good self-efficacy can result in benefits in treating hypertension such as compliance in taking antihypertensive drugs (Br.Siahaan *et al.*, 2022).

Controlled blood pressure in hypertensive patients indicates successful therapy. This must also be supported by the patient's knowledge and understanding of their illness. The more the patient understands their illness, the more aware they will be in maintaining a lifestyle, taking medication regularly, and the patient's compliance level will also increase (Sinuraya *et al.*, 2017). Controlled blood pressure in patients can occur when patients are able to consume antihypertensive drugs obediently, so that the risk of damage to organs such as the heart, kidneys and brain can be reduced. According to Harahap *et al.* in 2019, in order to be able to control blood pressure in the long term, consumption of antihypertensive drugs must be done obediently. Antihypertensive drugs are not only able to control blood pressure, currently antihypertensive drugs also play a

role in reducing the risk of developing cardiovascular complications.

Health education is a major component and is a series of efforts aimed at influencing others, from individuals, groups, families and communities to implement healthy living behaviors. By providing health education to hypertensive patients, it is hoped that it can increase patient knowledge, so that hypertensive patients can help themselves in controlling their disease (Damayanti *et al.*, 2022).

## METHODS

The review in this study uses a systematic method with rapid review approach, focusing on data collected from previous studies through a systematic approach, data collection and analysis, and collection of research findings related to education that influences the outcome of adherence to treatment in hypertensive patients. Criteria inclusion covering antihypertensive drugs, patient education, side effects of antihypertensive drugs, level of patient compliance in consuming antihypertensive drugs. Indonesian and English only, only using full paper and free articles. While the exclusion criteria include articles that do not have a complete structure, review, an article that does not discuss patient education regarding the level of medication compliance. Open n on drugs antihypertensive. The data were collected from the Google Scholar electronic database between 2019-2023, totaling 1570 articles. The majority of articles were selected due to the clarity of the abstract, questions, and data analysis that provided information on education influencing medication adherence in hypertensive patients.

**Table 1 List of Journal Reviews**

NO	AUTHOR (YEAR)	COUNTRY	TITLE	RESEARCH DESIGN	OBJECTIVE	VARIABLES	RESPONDENTS	RESULTS
1.	Ayu Made Sulassri et al (2023)	Indonesia	Hypertension Education on Knowledge, Medication Compliance, and Blood Pressure in Hypertension Patients	Quasi - Experimental with One-group pre design test and post -test.	Analyze effectiveness of hypertension education on the level of knowledge, medication compliance and blood pressure in hypertensive patients	Dependent variable: medication compliance Independent variable: hypertension education	Sample in study This is patient hypertension aged 40-50 years as many as 42 people	Research result show that level knowledge , compliance drink medicine and pressure blood , $p=0.000$ ( $p <0.05$ ). hypertension education is effective in increasing knowledge, medication compliance and blood pressure in hypertensive patients.
2.	Marlina Indriastuti , Susana Sintia R, Anna L Yusuf , M Jafar , Davit Nugraha , Panji Wahlanto (2021)	Indonesia	The effect of education using booklets on medication compliance in hypertension patients at a clinic in the Sidareja area	Observational	To find out the effect of providing education through booklets on medication compliance in hypertension patients.	Variables bound : Compliance drink drug Independent variable: The effect of education on compliance with taking antihypertensive medication	A total of 40 respondents involved in study This	Wilcoxon statistical test show change significant to level compliance patient hypertension before and after giving education with booklets ( $p<0.05$ ). Giving booklets to patients hypertension as education can increase compliance drink medicine in one of the clinic in Sidareja .
3.	Mindfulness of Indra Bakti, the sacred treasure, the ethics of Dwi Cahyaningrum (2023)	Indonesia	Education compliance drink antihypertensive drugs to sufferer hypertension in the village hamlet pumpkin	Lecture, ask answer	Increasing Hypertension sufferers' knowledge about hypertension and the importance of adherence to drinking medication and increased compliance of hypertension sufferers	Dependent variable: Medication Compliance in Hypertension Patients Independent variable: The effect of education on medication compliance	15 respondents	The results of the PKM activities are known knowledge patient about hypertension and its importance compliance drink medicine in Dukuwaluh Village before implemented education part big in category not enough as much as 59.62 and after implemented education all over Respondent own knowledge in category Good as much as 85.86. Compliance drink drug patient hypertension in Dukuwalu Village before implemented education part big in category currently as many as 21 respondents (60%) and 1 month after implemented education part big Respondent own compliance drink drug in category Good as many as 23 respondents (65.7%). The method used that is lecture , ask answer .
4.	Jesica F. Kansil Mario E. Katuuk Maria J. Regar (2019).	Indonesia	Influence Giving Education With the Focus Group Discussion Method Against	Quasi experiment , with design pretest-posttest with control group.	Know The effect of providing education using the FGD method on compliance in taking medication for	Dependent Variable: Compliance in Taking Medication in Hypertension Patients Variables Free : Influence Giving	34 respondents who have met the inclusion criteria consisting of an intervention group of 17 respondents and a control group of 17 respondents.	Test Chi Square at a significance level of 95% obtained a significant value of $p = 0.028$ or less than $0.05$ ( $0.028 <0.05$ ). The results of this study indicate that the FGD education method is very effective in increasing compliance with taking medication for hypertension patients at the West Tahuna Health Center.

NO	AUTHOR (YEAR)	COUNTRY	TITLE	RESEARCH DESIGN	OBJECTIVE	VARIABLES	RESPONDENTS	RESULTS
5.	Goodbye Azhimah , Nadia Farhanan Syafhan , Nurhaida The Manor (2022)	Indonesia	Compliance Taking Medicine for Sufferers Hypertension in Health Center West Tahuna Effectiveness of Educational Videos and Medication Reminder Cards on Medication Compliance and Blood Pressure Control in Hypertension Patients	Randomized Controlled Trial (RCT)	hypertension patients  Evaluate education using videos and medication reminder cards on compliance with antihypertensive use in outpatients at the Tangerang Selatan-Banten Community Health Center.	Education With the Focus Group Discussion Method  Dependent variable: Effectiveness of Educational Videos and Reminder Cards to Take Medicine Independent variables: Medication Compliance and Blood Pressure Control	160 respondents, consisting of a control group (80 respondents) and an intervention group (80 respondents).	Before the intervention, there were significant differences between groups regarding the demographic characteristics of respondents, clinical characteristics, and lifestyle. Pharmacist intervention through educational videos and medication reminder cards had a significant effect on increasing medication adherence (p: 0.000) with a high level of adherence category of 7.5%, moderate adherence of 77.5% and low adherence of 15%. This intervention also significantly reduced systolic and diastolic blood pressure (p: 0.000, TDS/TDD=-15.44 mmHg/-5.12 mmHg). Patient hypertension experienced 3.75% of incidents effect side side drug with a mild level . The results of the study at the Lerep Health Center showed that compliance before the intervention was in the medium category of 60%, low category 35% and high category 5%. Compliance after the intervention was in the medium category of 20%, low category 0% and high category 80%. The significance value of the paired t-test was 0.000 (<0.05). The level of compliance for the pill count test consisted of two categories, namely compliant (compliance ≥80%) and non-compliant (compliance <80%). All respondents from the Lerep Health Center and the Gracia Clinic showed a compliance score of ≥ 80%, including the compliant category. Counseling with video media can improve compliance with taking hypertension medication at the Lerep Health Center and the Gracia Clinic.
6.	Dian Oktianti , Nova Hasani Furdiyanti , Sikni Retno Karminingtyas (2019).	Indonesia	The Effect of Providing Drug Information Using Video Media on Medication Compliance of Hypertension Patients in Ungaran	<i>cross sectional</i>	To determine the effect of providing drug information using video media on medication compliance of hypertension patients at Lerep Health Center and Gracia Clinic.	Dependent variable: Compliance with Taking Hypertension Patients' Medication Independent variable: The effect of providing drug information using video media	40 people	The results of the study at the Lerep Health Center showed that compliance before the intervention was in the medium category of 60%, low category 35% and high category 5%. Compliance after the intervention was in the medium category of 20%, low category 0% and high category 80%. The significance value of the paired t-test was 0.000 (<0.05). The level of compliance for the pill count test consisted of two categories, namely compliant (compliance ≥80%) and non-compliant (compliance <80%). All respondents from the Lerep Health Center and the Gracia Clinic showed a compliance score of ≥ 80%, including the compliant category. Counseling with video media can improve compliance with taking hypertension medication at the Lerep Health Center and the Gracia Clinic.
7.	Indri Dwi Rahasasti and Neni Laeliah (2020).	Indonesia	The Effect of Pharmacy Education on Knowledge and Compliance in Taking Medication in Hypertensive Patients	Quasi experiment with one group pre-test and post-test design	Giving education pharmacist to patient hypertension participant Prolanis at the Health Center Kaliwedi For	Dependent Variable: Knowledge and Compliance in Taking Medication in Hypertension Patients Participating in Prolanis	50 people	There is a significant influence of pharmacist education on knowledge and medication adherence of hypertensive patients participating in Prolanis. From the results of the Wilcoxon test, the p-value for the knowledge and adherence variables was 0.000 (p <0.05) which indicates a significant difference in knowledge values before and after pharmacy education.

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			Participating in Prolanis at the Kaliwedi Health Center, Cirebon Regency		increase knowledge and compliance drink drug patient hypertension in undergo the treatment so that objective from therapy hypertension can achieved .	Variables Free : Influence Pharmacy Education		
8.	Shirly Kumala, Wahyudi Uun (2019).	Indonesia	Analysis of the Effectiveness of Providing Counseling and Leaflets on the Level of Compliance in Taking Medication in Controlling Blood Pressure in Hypertension Patients at Dr. Adjidarmo Hospital Lebak Regency	Quasi experiment	evaluation effectiveness giving counseling and leaflets on level compliance through decline mark pressure blood systole and diastole and decrease score questionnaire <i>Morisky Medication Adherence Scale</i> (MMAS-8) in patients hypertension .	Dependent Variable: Level of Medication Compliance in Controlling Blood Pressure Independent Variable: Effectiveness of Counseling and Leaflet Provision	30 0 people	There is significant difference (p <0.05) in MMAS-8 scores before and after intervention. Providing counseling and treatment leaflets effectively increased compliance in hypertensive patients.
9.	Nadia Husna (2023).	Indonesia	Influence Giving Education to Compliance Taking Patient Medication Prolanis at the Health Center Lime 1	Observational analytic	This study was conducted to determine the effect of education on medication adherence to PROLANIS patients at Puskesmas Limestone 1 Yogyakarta (to find out the effect of education on medication compliance in	Dependent variable: Compliance in Taking Medication by Prolanis Patients Independent variables: The Influence of Providing Education		Based on the data obtained, the distribution medication compliance high antihypertensive of 21.35%, moderate compliance of 48.31%, and low compliance of 28.10%. Conclusion: This study also shows that there is a significant relationship significant between providing education and patient compliance in consuming PROLANIS treatment at Gamping 1 Health Center Yogyakarta

NO	AUTHOR (YEAR)	COUNTRY	TITLE	RESEARCH DESIGN	OBJECTIVE	VARIABLES	RESPONDENTS	RESULTS
10	Ita rifa'atul M, roisah , ainul sure greetings . (2023 )	Indonesia	Influence Emo- Demo Education Against Compliance Taking Patient Medication Hypertension in Participants Prolanis It	Quasi experiment	Prolanis patients at the Gamping 1 Health Center in Yogyakarta). Know influence Emo education demo against compliance drink medication in patients registered hypertension in the Prolanis program at the Community Health Center Source of the world Lumajang	Dependent variable: Medication Compliance of Hypertension Patients in Prolanis Participants Independent variables: The Influence of Emo- Demo Education	50 respondents	Emo demo education has significant influence to compliance drink medication in patients hypertension participant Prolanis , with p-value of 0.000 which is more small from level the meaning that has been set which is 0.05. Compliance drink effective drug among patient hypertension can increase control on pressure blood controlled and prevent the occurrence complications disease .
11	Juliana widyanti , iwan Yuwindry , Andriana Palimbo . (2022 )	Indonesia	Influence Giving Education Through Social Media Against Compliance Use of Drugs in Patients Hypertension in Pulau Village Blurred Subdistrict Strong	True experiment	Know influence giving education via social media to compliance use medication in patients hypertension in Pulau Village Mambula Subdistrict Strong	Dependent variable: Use of Drugs in Hypertension Patients Independent variables: Providing Education Through Social Media	42 respondents	There is influence giving education about disease hypertension to knowledge and compliance community in Pulau Village Mambula Subdistrict Strong with p value 0.004. mean compliance score drink drug before done intervention is 1,571 with Sd 3,037 and after given education increase to 2,186 with SD 2,186 with p Value 0.005 which means There is influence and improvement compliance drink drug .
12	Tripena , Tini , Bandar (2023 )	Indonesia	Influence Education Based on Group To Compliance Taking Medication In Patients Hypertension in the Workplace Health Center Demands Tanjung Palas District, Regency The Feather	Quasy Experiment	Become indicator of stable blood pressure in patients. The purpose of this study was to determine the effect of group-based education on medication adherence in hypertensive patients.	Dependent Variable: Medication Compliance in Hypertension Patients Independent Variable: Group Based Education	30 respondents	Results The Wilcoxon test shows a p-value of 0.000 (<0.05) , which means there is influence education group to compliance drink drug hypertension then in the chi-square test at the level 95% significance was obtained mark significant pvalue = 0.028 or more small from 0.05 (0.028<0.05) means method education based on very effective group used For increase compliance drink medication for patients hypertension in health center western annual .

NO	AUTHOR (YEAR)	COUNTRY	TITLE	RESEARCH DESIGN	OBJECTIVE	VARIABLES	RESPONDENTS	RESULTS
13	Emy oktaviani , oktaviana zunnita , marlina handicraft (2020 )	Indonesia	The Effect of Education Through Brochures on Blood Pressure Control and Compliance of Hypertension Patients	Quasi experimental	For know influence education through brochure to 36tattooist pressure blood , compliance drink medication and 36other factors related to the patient hypertension .	Dependent Variable: Blood Pressure Control and Hypertension Patient Compliance Independent Variable: Effect of Education Through Brochures	50 respondents	Tester an 36statistics using the Wilcoxon Signed Rank Test obtained significant results ( $p<0.05$ ) , Education through brochure media can give significant effect to compliance drink drug patient hypertension with mark significance 0.0001 ( $p<0.05$ )
14	Soviarni , Mimi rosiska (2022 )	Indonesia	Influence Giving Hybrid Learning Education Regarding Compliance Level Take medicine In Patients Hypertension at the Elderly Posyandu Health Center Wonoasih .	Quasi experiment	For know influence giving hybrid learning education towards level compliance drink medication in patients hypertension at Posyandu Elderly Health Center Wonoasih	Dependent Variable: Level of Compliance in Taking Medication In Patients Hypertension at Posyandu Variables Free : Giving Hybrid Learning Education	76 Respondent	Results statistical tests 36conducted researcher with use Wilcoxon Tests SPSS with total 34 respondents show Asymptotic Significance value (2-sided) of 0.006. Therefore $p\text{ value} = 0.006 < \alpha$ $= 0.05$ exists difference between results level compliance drink medication in patients before and after intervention intervention Hybrid Learning Education . It was also found that level compliance with pre- intervention moderate category and post intervention remained moderate category as many as 35.30% (12 respondents), The level of compliance in the pre- intervention category is moderate and post- intervention is in the moderate category. low as 8.82% (3 respondents) and it was found that the level compliance with pre low category intervention and post intervention remained in the low category at 8.82% (3 respondents). This shows that changing people's behavior is indeed need process and time that is not short .

## RESULTS AND DISCUSSION

10 articles come from Indonesia (Gusti *et al.*, 2023; Marlina *et al.*, 2023; Eling *et al.*, 2023; Jesica *et al.*, 2019; Husnul *et al.*, 2022; Dian *et al.*, 2019; Indri and Neni, 2020; Umilawati *et al.*, 2019; Ritadan Adhila, 2019 ; Niken and Nadia, 2023; Soviarni and Mimi Rosiska , 2022 ; 2 articles with Quasi-Experimental design with One-group pre-test and post-test design (Gusti *et al.*, 2023; Indri and Neni, 2020; Jesica *et al.*, 2019). 2 articles with Observational design (Marlina *et al.*, 2023; Niken and Nadia, 2023). 1 article with lecture and question and answer research design (Eling *et al.*, 2023). 1 research article with *Randomized Controlled Trial* (RCT) design (Husnul *et al.*, 2022). 1 article with cross-sectional research design (Dian *et al.*, 2019). 3 articles with Pre-experimental research design (Rita and Adhila, 2019; Umilawati *et al.*, 2019; Soviarni and Mimi rosiska, 2022). 1 article with an analytical observational research design (Niken and Nadia, 2023); 1 article with an experimental research design (Ita *et al.*, 2023). 1 article with a True Experiment research design (Juliana *et al.*, 2022). 2 articles with a Quasy Experiment research design (Tripena and Bandar, 2023; Emy *et al.*, 2020).

Of the 14 articles selected for this review, all corresponded to quantitative studies. Fifteen articles were published between 2019 and 2023. The studies were conducted in various regions in Indonesia and various methods. Each of the 14 articles selected to be read carefully from the abstract, objectives, data analysis from the researcher's initial questions to collect information about the effect of education about drug side effects on the level of patient compliance in taking antihypertensive drugs including knowledge about hypertension therapy

management, family support, the role of health workers, domicile to health services, motivation to seek treatment.

The effect of education about drug side effects on the level of patient compliance in taking antihypertensive drugs is to increase knowledge, drug compliance, and blood pressure. Education is carried out using various methods including structured education, education with booklets, *focus group discussion* (FGD) education, educational videos and drug reminder cards, pharmacist/counseling education with leaflets and brochures, dash diet education, Emo demo education, education through social media, hybrid learning education.

### 1. Structured Education

Structured education means an explanation given by the doctor to the patient or caregiver to realize compliance in consuming antihypertensive drugs,9 reducing the amount of salt intake to 2 grams (Na: 80 mmol) or ½ teaspoon of table salt per day, and sports activities  $\geq 2$  times a week for at least 30 minutes given at each visit, for 3 months. Meanwhile, the provision of an antihypertensive drug checklist sheet indicating that the drug has been consumed by the patient is done by giving a check mark and showing the drug package that has been taken at each control. Furthermore, interviews and blood pressure checks are carried out before and after education.

### 2. Education with Booklets

Education with Booklets, The booklet contains persuasive information, the educational information includes the proper use of antihypertensive drugs, a healthy lifestyle including foods to avoid,

There are two factors that influence the compliance of hypertensive patients in consuming medication regularly, namely external factors and internal factors (Krisdianawati *et al.*, 2016). The booklet itself is included in the external factor. The influence obtained has an impact on patient education which is intended to provide health education or education to patients regarding the problem of hypertension (Krisdianawati *et al.*, 2016). The information contained in the Booklet makes changes in patient behavior, namely the contemplation stage behavior stage. Contemplation stage behavior is a patient at the behavioral stage level where they show understanding of the information that has been given through the Booklet media so that patients change their lifestyle as shown by the % value after being given the Booklet, compliance with taking hypertension medication increased. This is also influenced by factors of cooperation and support from health workers, counselors, the community, family members and patient motivation to recover (Rusida *et al.*, 2017).

### 3. Education *Focus Group Discussion* (FGD)

FGD is a systematic process of collecting data and information on a very specific problem through group discussions (Irwanto, 2006). In the FGD method, participants are active and given the opportunity to discuss, express their opinions on a problem and share experiences with other participants. Adifta and Bayu (2016) in their research on the differences in the effectiveness of reproductive health counseling between the lecture and

FGD methods stated that the FGD method is more effective in increasing knowledge and attitudes related to reproductive health compared to the lecture method.

### 4. Educational Videos and Reminder Cards to Take Medication

Along with the development of digital-based technology, pharmacist interventions are not only carried out conventionally face-to-face. In Indonesia, intervention research using digital innovation technology related to compliance and uncontrolled blood pressure is still limited. Educational video applications and medication reminder tools can be used as one solution to overcome obstacles to implementing interventions (Lorensia, 2021). In addition, these two media are provided as a means of increasing patient understanding of the disease, complications, therapy, how to take medication, side effects, benefits of medication compliance and side effect management. Through educational videos that are given repeatedly, respondents can be influenced to adopt a healthy lifestyle and comply with taking antihypertensive medication. Recording on medication reminder cards and short messages also helps patients in setting a routine schedule for taking medication.

### 5. Pharmacist Education / Counseling With Leaflets And Brochures

The most frequent intervention performed by pharmacists and has been proven to have a significant success rate is counseling (Fernandesz S, et al., 2011). Effective patient counseling will make patients understand the disease, antihypertensive therapy and the importance of lifestyle modification. In

addition, another way to improve compliance with treatment can be done through education. Education is an activity for Prolanis that aims to increase participant motivation in improving quality of life and improving health. Education for hypertension patients is one of the important pillars in hypertension management because it can increase patient knowledge and understanding of the disease and its treatment. Such as providing leaflets, brochures. The advantages of leaflets and brochures include being able to be stored for a long time, being able to be distributed and read or viewed by a wider target audience (Ministry of National Education, 2008).

#### 6. Dash Diet Education

The diet currently known in developed countries for hypertension patients is the DASH diet ( *Dietary Approaches to Stop Hypertension* ), which is a vegetable and fruit diet that contains a lot of dietary fiber (30 grams/day) and certain minerals (potassium, magnesium and calcium) while salt intake is limited (Sacks et al, 2001).

#### 7. Emo Education Demo

Emo-Demo is a community education method that uses a new approach based on the theory of *Behavior Centered Design* (BCD). The principle underlying this theory states that behavioral change can only occur in response to new, stimulating, unexpected, or interesting stimuli. Emo-Demo Education is a communication strategy that uses a combination of Behavior Change Communication (BCC) techniques to facilitate strategic change. The theory

mentioned above relates to a collaborative process involving individuals, groups, or communities, which aims to design communication strategies that facilitate beneficial behavioral change (compliance) (Aunger & Curtis, 2016).

#### 8. Education Through Social Media

According to research (Oktianti *et al.*, 2019) that there is an influence of Whatsapp social media on the closed behavior of students, they freely use the application for their communication activities, so it is not surprising that many students access the application more often to make it easier for them to communicate. This can happen because through social media, people can get information easily because technology is currently advanced, someone is able to access various kinds of information via cellphones by utilizing existing social media. Providing education using Whatsapp Group with social media is more effective than using Leaflet media with direct home visits, because socialization using Whatsapp Group is given to the community with its advantages, namely that people can read the information that has been given anytime and anywhere by only using the existing internet, and the community can communicate directly with researchers if there is something they want to ask without having to meet.

#### 9. Hybrid Learning Education

Hybrid Learning education has been widely implemented to facilitate efforts to improve the understanding of hypertension sufferers about their disease with the hope that the behavior of compliance in taking hypertension medication will be good. Compliance

in taking hypertension medication is something that really needs to be considered because it is part of hypertension management. Hypertension management includes controlling risk factors and pharmacological therapy according to the Indonesian Ministry of Health (2013). According to research by Musanto et al., there is an effect of providing hybrid learning education on the level of compliance in taking medication in hypertension patients at the Elderly Posyandu of Wonoasih Health Center, ( $p\text{-value} = 0.006 < \alpha = 0.05$ ). By knowing the symptoms and risk factors for hypertension, it is hoped that sufferers can prevent the emergence of hypertension complications. Education is a means to provide understanding, with hybrid learning it is expected to be able to accelerate patient understanding of the importance of compliance in taking medication.

a. Education structured

Based on research conducted by Ayatullah Khomaini et al., structured education has a significant influence on reducing systolic and diastolic blood pressure in the elderly hypertensive group, while compliance with taking antihypertensive medication in the form of a checklist does not have a significant influence.

b. Education booklet

According to research by Marlina Indriatuti et al. (2021), providing booklets to hypertension patients as education can increase

medication compliance at a clinic in Sidareja.

c. *Focus Group Discussion* (FGD) Education

According to research by Jesica et al. (2019), it was shown that the FGD education method was very effective in increasing medication adherence in hypertension patients at the Tahuna Barat Health Center. According to research by Tripena et al. (2023), there was an influence of group-based education on medication adherence in hypertension patients at the Antutan Health Center.

d. Educational Videos and Reminder Cards to Take Medication

According to research by Husnul Azimah et al. (2022), pharmacist intervention through educational videos and medication reminder cards had a significant effect on increasing medication adherence. According to research by Dian Oktianti et al. (2019), counseling using video media can increase adherence to taking hypertension medication at the Lerep Health Center and Gracia Clinic.

e. Pharmacist Education / Counseling With Leaflets and Brochures

According to research by Indri Dwi Rahasasti et al (2020), there is a significant influence of pharmacist education on knowledge and medication adherence of hypertensive

patients participating in Prolanis. According to research by Umilawati Rawi et al (2019), providing counseling and medication leaflets is effective in increasing compliance in hypertensive patients. According to research by Niken Larasati et al (2023), there is a significant relationship between providing education and medication adherence in PROLANIS patients at the Gamping 1 Health Center in Yogyakarta. According to research by Emy et al (2020), education through brochures can have a significant effect on medication adherence in hypertensive patients with a significance value of 0.0001 ( $p < 0.05$ ). Research by Gusti Ayu Made et al (2023) hypertension education is effective in increasing knowledge, medication adherence and blood pressure in hypertensive patients.

f. Dash Diet Education

According to research by Rita Uliatiningsih et al. (2019), there is an influence of DASH diet education on dietary compliance based on Carbohydrate, Protein, Potassium, Magnesium, Calcium and Fiber intake according to the principles of the DASH diet and blood pressure in outpatients with hypertension at the Cilandak Marine Hospital.

g. Emo Education Demo

According to research by Ita et al. (2023), the results of the

bivariate analysis showed that Emo demo education had a significant influence on medication adherence in hypertensive patients participating in Prolanis, with a p-value of 0.000 which is smaller than the predetermined significance level of 0.05.

h. Education Through Social Media

According to research by Juliana Widyanti et al. (2022), it was shown that there was an influence of providing education through social media WhatsApp and leaflet media on drug compliance in hypertension patients in Pulau Manbulau Village, Bataguh District.

i. Hybrid Learning Education

Based on the results of research conducted by Wahyuni et al., (2019), it was found that the factors influencing compliance were knowledge, attitudes, actions and doctor communication, while based on the results of research conducted by Rikmasari et al., (2020), it was found that the factors influencing compliance were age, duration of treatment, education and comorbidities.

The booklet itself is included in external factors. The influence obtained has an impact on patient education which is intended to provide health education or education to patients regarding hypertension problems (Krisdianawati *et al.*, 2016). The information contained in the Booklet makes changes in patient behavior, namely the contemplation

stage behavior stage. Contemplation stage behavior is a patient at the behavioral stage level which shows understanding of the information that has been given through the Booklet media so that patients change their lifestyle as shown by the % value after being given the Booklet, compliance with hypertension medication consumption increased. This is also influenced by factors of cooperation and support from health workers, counselors, the community, family members and patient motivation to recover (Rusida *et al.*, 2017).

### Conclusion

Based on the results of the analysis of 14 journals that have been conducted, the education carried out and shown to hypertensive patients has a significant value on patient compliance in taking medication, there is a difference before and after being given education. There are several educational methods carried out including structured education, education with booklets, focus group discussion (FGS) education, through educational videos and brochures, diet dash education, Emo Demo, and education using social media.

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