

Literature study: Relationship between pharmacist's "pharmaceutical care" and achievement of blood pressure targets in hypertension patients

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ABSTRACT

Hypertension is defined by persistently elevated arterial blood pressure. The Seventh Report of the Joint National Committee (JNC VII) on Detection, Evaluation, and Treatment of High Blood Pressure explains that hypertension is a condition where there is an increase in blood pressure in the arteries above 140/90 mmHg. The general goal of hypertension treatment is to reduce mortality and morbidity associated with hypertension. Mortality and morbidity are related to target organ damage. Reducing risk is the main goal of hypertension therapy, and the choice of drug therapy is significantly influenced by evidence showing risk reduction. The target blood pressure value recommended in JNC VII for most patients is < 140/90 mm Hg, patients with diabetes < 130/80 mm Hg and patients with chronic kidney disease < 130/80 mm Hg. One part of the therapeutic management of hypertensive patients to achieve therapeutic goals is through pharmaceutical care (Pharmaceutical care). Counseling as an implementation of the concept of pharmaceutical care (pharmaceutical care) aims to provide additional knowledge about drugs and treatment with the hope of providing patients with an understanding of the role of drugs in curing their disease. This review summarizes the results of research on the effect of pharmacist intervention on achieving blood pressure targets for hypertensive patients by searching international and national published scientific journals from the last year 2010- 2021 via electronic databases in the form of Pubmed, ScienceDirect and Google Scholar.

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INTRODUCTION

Hypertension is defined by persistently elevated arterial blood pressure (Puspitasari, 2020) (Valerian et al., 2021) (Alfianur & Novikasari, 2021) (Handayani et al., 2021). The Seventh Report of the Joint National Committee (JNC VII) on Detection, Evaluation, and Treatment of High Blood Pressure explains that hypertension is a condition where there is an increase in blood

pressure in the arteries above 140/90 mmHg.

The 2018 Riskesdas results stated that the prevalence of hypertension based on measurement results in the population aged 18 years was 34.1%. There was an increase of 8.3% from 2013 which amounted to 25.8%. Based on the prevalence figure of 34.1%, it shows that 8.8% of hypertension cases were recorded as cases diagnosed with hypertension, while 91.2% of respondents did not know they had hypertension. This shows that the majority of hypertension sufferers do not know that they are hypertensive so that sufferers do not receive proper and correct treatment (Hanum et al., 2019) (R. Wulandari & Puspita, 2019) (Alam & Jama, 2020) (Sawitri & Nadira, 2023) (Sawitri & Nadira, 2023). According to data from respondents who were diagnosed with hypertension, the number of respondents who regularly took medication was 54.4%, while the percentage of respondents who did not take medication was 13.3%, and the remaining 32.3% did not drink regularly.

Hypertension is a health problem that needs attention because of its high morbidity and mortality (Mahmudah, 2019) (Kurniasih et al., 2022) (Jamini, 2023) (Jamini, 2023) (Idris & Nurwahyuni, 2022). The World Health Organization (WHO) states that the number of hypertension sufferers will continue to increase as the population grows. In 2025, it is projected that around 29% of the world's citizens will be affected by this case and the percentage currently is highest in developing countries. Data from the Global Status Report on Noncommunicable Diseases 2010 from WHO states that 40% of developing economic countries have hypertension sufferers, while only 35% of developed countries. The results of the 2018 Basic Health Research (Riskesdas) stated that the prevalence of hypertension based on measurement results in the population aged over 18 years was 34.1% with the highest number in South Kalimantan at 44.1%, while in the 31-44 year age group it was 31.6% and aged 45-54 was 45.3%. From a prevalence of 34.1%, it is known that 8.8% were diagnosed with hypertension and 13.3% of people were diagnosed with hypertension but did not take medication. (Nida Anshofia Indriani, 2021).

Pharmaceutical services are integrated activities with the aim of identifying, preventing and resolving drug problems and health-related problems (Dianita et al., 2017) (Toreh et al., 2020) (Diana et al., 2021) (Nerdy et al., 2021) (Idham et al., 2022). The demands of patients and the public to improve the quality of pharmaceutical services require an expansion of the old paradigm which is product oriented (drug oriented) into a new paradigm which is patient oriented (patient oriented) with the philosophy of Pharmaceutical Services (pharmaceutical care) (Ministry of Health of the Republic of Indonesia, 2016). One part of the therapeutic management of hypertensive patients to achieve therapeutic goals is through pharmaceutical care (Fajarini, 2018) (Susanti, 2021) (Adistia & Dini, 2022) (A. A. I. R. Y. Wulandari, 2024) (Putri et al., 2020) (DISKA AZHARI, 2017). Counseling as an implementation of the concept of pharmaceutical care (pharmaceutical care) aims to provide additional knowledge about drugs and treatment in the hope of providing patients with an understanding of the role of drugs in curing their illness. Drug counseling for patients is expected to provide behavioral changes to increase drinking compliance which will ultimately increase the success of patient therapy (Indriani et al., 2021) (Mufarokhah et al., 2016) (Siswidiasari & Muslimah, 2022).

RESEARCH METHOD

Literature search strategy

A systematic literature search was conducted to identify articles with information about community pharmacist-led interventions. Hypertension related to definition, pathophysiology, classification, Blood Pressure targets and Therapy. A search was carried out for scientific journals published at international and national levels from 2010-2021 with the keywords: hypertension, blood pressure targets, pharmacist, pharmaceutical care through electronic databases in the form of Pubmed, Science Direct and Google Scholar.

Literature Criteria

The selection of literature was based on the ability to answer questions related to the research objective, namely knowing the influence of pharmacist assistance on achieving targets. Blood Pressure of hypertensive patients. Criteria for journals or articles are filtered based on publication period in the last 5 years, English language (International), Indonesian language (National), literature title, abstract and appropriate keywords. Next, the articles are filtered and re-selected by reading the entire text. The number of articles used for the literature review was 6 articles with articles published at least in 2017.

2.3. Stages of the Literature Search Process

From all the databases used, a total of 18 articles were obtained. The articles are then filtered based on the title, abstract and keywords used to show their suitability to the topic to be discussed. At this stage, there are 10 articles from the selection that have the potential to be processed and reviewed. The articles obtained were then re-selected to avoid duplication by reviewing the entire text of the article for inclusion in the study. There are 6 articles included in the final stage of the selection process which are considered relevant to the research topic and will be reviewed in full and researched further. Then the data analysis or information resulting from the review is processed using descriptive analysis by comparing the findings in each article based on the similarities and differences obtained.

RESULTS AND DISCUSSIONS

One of the pharmacist's interventions in the form of education, counseling, and even motivation in the form of Short Message Service (SMS) has also been developed in Africa to increase antiretroviral adherence (Mbuagbaw et al., 2011). And according to Ariyani et al (2015), in their research they concluded that brief and motivational counseling via short messages (SMS) by a pharmacist for hypertensive patients was effective in improving the patient's quality of life. Several counseling alternatives are often used, for example the use of leaflets so that patients can read them. wherever and whenever. It is hoped that the use of the SMS Short Message Service and the information in the leaflet can help hypertensive patients comply with the treatment given to control their blood pressure. In various health facilities, the counseling that is often used in the country is the use of counseling accompanied by Leaflet and motivational SMS, supported by research results from Dewi et al (2015) stating that giving leaflets to patients can increase self-efficacy and patient compliance with taking medication and reduce blood pressure. It is hoped that the results of this research will become input for future government policy in dealing with hypertension emergencies so as to add strategies in providing effective pharmaceutical care counseling in increasing compliance and knowledge of hypertension patients, for example with visual images or videos via Social Media. (Nida Anshofia Indriani, 2021)

Team-based care including pharmacists and nurses is a proven method to improve Blood Pressure control. The physician-pharmacist collaborative management model (PPCM) involves close collaboration in the primary care setting to optimize drug therapy and promote preventive health measures. Studies have shown that the addition of a pharmacist to the health care team improves Blood pressure control in those with Diabetes Mellitus. Although there are examples of randomized controlled trials that have examined the contribution of pharmacists to Blood Pressure outcomes in those with Diabetes Mellitus, many studies were conducted in community pharmacies, outside the United States, or in a limited number of medical offices.

The Collaboration Among Pharmacists and Physicians To Improve Blood Pressure Now (CAPTION) study was a cluster randomized implementation trial that measured the impact of PPCM in patients with uncontrolled hypertension in 32 medical offices across the United States. 27 The primary endpoint in CAPTION did not reach statistical significance ; BP control was 43% in the intervention group and 34% in the control group at 9 months (adjusted odds ratio (OR) 1.57 [95% CI 0.99-2.50], p=0.059).27 CAPTION trial determine BP control for those with DM and CKD

less than 130/80 mm Hg based on the current, Seventh Report of the Joint National Committee for the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7). 28 Additionally, the Action Trial to Control Cardiovascular Risk in Diabetes (ACCORD), published during the CAPTION trial, found no evidence to support a goal of SBP below 140 mm Hg in diabetes patients. 29 Some physicians in the CAPTION trial anecdotally expressed discomfort with the JNC-7 Goal (Maxwell D. Anderegg, 2018).

A growing body of international research has highlighted the positive contribution of community pharmacists in improving patient medication adherence and health outcomes, particularly through the provision of pharmaceutical care interventions. Pharmaceutical care interventions aim to improve quality of life through responsible medication provision.

Community pharmacists have detailed knowledge of disease prevention and management, and they are ideally positioned within the primary health care system to provide pharmaceutical care interventions. Additionally, they are one of the most accessible healthcare providers to the public and are in regular contact with those with long-term health conditions and poor health. Their regular contact with patients provides community pharmacists with many opportunities to identify and follow up on patient compliance issues. This regular contact also allows a rapport to be built and a trusting therapeutic relationship to be fostered, between pharmacist and patient. Recently, the expansion of roles for community pharmacists has prompted a shift in their workplace duties from predominantly dispensing to include more patient-centred roles and the provision of pharmaceutical care. (Aleksandra Milosavljevic, 2018)

Octaviani's research (2017) used a counseling method with tools to increase patient medication consumption compliance. The counseling tools in this journal are information sheets on drug use and telephone as reminders for patients about the therapy used. Counseling with these tools aims to make patients more precise in the timing of drug use and better understand information about the drugs used in therapy. Telephone counseling in this journal functions so that pharmacists can remind them of their medication-taking schedule and can monitor possible side effects or complaints that patients experience after taking medication. Counseling in this study also used tools in the form of information sheets on drug use in the form of charts of when to take medication so that patients could easily remember these times. The use of assistive devices in counseling in this study has a positive impact because the presence of information sheets on drug use increases the level of patient errors in using blood sugar control drugs that have been given by pharmacists. Apart from that, assistive devices are also useful as additional information for patients so that the information received can be easy to remember. The results of research written by Kumala et al (2014) in the internal medicine polyclinic at Cilacap District Hospital stated that the average value of compliance in the group that was intervened with standard pharmaceutical care counseling was greater than the control group.

Interventions carried out by pharmacists in the form of providing leaflets can reduce patient blood pressure due to increased patient awareness of hypertension, the risks that will arise if blood pressure is not controlled, lifestyle and all the things that must be paid attention to specifically for hypertensive patients. These are all contained in the leaflet which can be read wherever and whenever. (Nida Anshofia Indriani, 2021)

Pharmacist counseling has a significant effect on increasing medication compliance in hypertensive patients and increasing patient knowledge about hypertension and its treatment. Patient compliance with treatment can significantly improve the results of hypertension therapy in the form of achieving systolic and diastolic blood pressure targets (Muvita Rina Wati, 2015).

Pharmacist counseling has a significant influence ($p=0.000$) on the compliance of hypertensive patients at Sleman District Hospital and compliance has a positive and significant relationship ($p=0.000$; $r=0.725$) on reducing systolic blood pressure and compliance also has a positive and significant relationship ($p=0.02$; $r=0.205$) on reducing diastolic blood pressure so that

the higher the level of patient compliance, the greater the reduction in blood pressure. (Yusi Febrianti, 2013).

Community pharmacist-led interventions have contributed to improved medication adherence and better disease control. In particular, they have contributed to better BP control, cholesterol management, COPD and asthma control. The studies in this review, however, did not find any effect of intervention on glycated haemoglobin (HbA1c) levels or control of depressive symptoms. Most interventions are delivered face-to-face and involve an educational component, to improve patients' understanding of their medication or disease. While literature is available to support the use of educational interventions in community settings, understanding the contributions of other intervention components is also important. Future research should try to better understand which components make the greatest contribution to improved adherence and health outcomes, for patients with different medical conditions. (Aleksandra Milosavljevic, 2018).

And Maxwell D Anderegg in his study showed that collaborative physician-pharmacist intervention was effective in reducing mean systolic Blood Pressure and improving Blood Pressure control in patients with uncontrolled hypertension with Diabetes Mellitus and/or Chronic Kidney Disease, regardless of Blood Pressure guidelines.

CONCLUSION

Various studies involving pharmacist intervention for hypertensive patients, reveal that there is a significant influence of pharmacist intervention on achieving blood pressure targets in hypertensive patients. Along with increasing patient knowledge regarding hypertension, awareness and compliance with taking anti-hypertension medication also increases, so that ultimately the patient's blood pressure becomes controlled.

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