

The Contribution of Nurses in Promoting Compliance and Health Outcomes in Hypertension Care

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ABSTRACT

Hypertension is a chronic disease with a high prevalence that can cause serious complications if not properly controlled. Patient adherence to medication and lifestyle changes are key factors in the management of hypertension. Nurses have a strategic role in increasing patient adherence and improving health outcomes through educational approaches, routine monitoring, and psychosocial support. This study aims to review the contribution of nurses in efforts to improve patient adherence and its impact on blood pressure control and quality of life of patients with hypertension. Various nursing interventions such as health education, strengthening therapeutic communication, and follow-up programs proved effective in increasing patient awareness and encouraging active involvement in disease management. The results showed that nurse involvement directly contributed significantly to increased patient adherence and improved clinical outcomes, making nurses an important element in the multidisciplinary team in hypertension care.

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1. INTRODUCTION

Health according to the World Health Organization (WHO), is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity/disability". Health is something that is very important for human life. However, sometimes an unhealthy lifestyle causes various diseases to attack our bodies, one of which is Acute Respiratory Tract Infection (ARI). ARI is the leading cause of death in the world, where ARI cases reach 120 million people per year and around 1.4 million people die. 95% of deaths are caused by ARI in countries with low and middle per capita income.

According to the World Health Organization (WHO), rational drug use is a condition where patients receive treatment according to their clinical needs, in doses that are appropriate to individual needs, for an adequate period of time, and at the lowest cost to the patient and the community. ARI is still the main cause of morbidity and mortality of infectious diseases in the world(Williams et al., 2002). The mortality rate of ARI reaches 4.25 million each year in the world. The World Health Organization (WHO) in 2020 found that there were 1,988 cases of ARI in toddlers aged 1-5 years with a prevalence of 42.91%. Based on the results of the 2018 National Basic Health Research (Risksesdas), the prevalence of ARI was (4.4%) with the characteristics of the population experiencing the highest ARI in the toddler age range (25.8%).

The provinces included in the top five highest ARI are Papua (10.0%) Bengkulu (9.5%), West Papua (7.5%), East Nusa Tenggara (7.4%) Central Kalimantan (6.0%) East Java (5.5%), Maluku (5.4%), Banten (5.1%), West Java (4.9%), Central Java (4.9%). Based on/1prevalence of ARI in the province of North Sumatra with a symptom diagnosis (DG) of 6.8 %, while with a health diagnosis (D) of 2.8%. Based on the Prevention and Control of ISPA program, it is focused on controlling pneumonia in toddlers

because it contributes greatly to the morbidity and mortality of toddlers. Until now, pneumonia is still one of the causes of the highest morbidity and mortality in toddlers in the world and in Indonesia.

According to WHO, pneumonia contributed to 14% of toddler deaths in the world in 2019. In RISKESDAS 2018, the prevalence of pneumonia based on diagnosis by health workers was 2% and 4% based on diagnosis by health workers and symptoms. Based on the percentage of pneumonia case treatment according to standards, 50% of the target of 53% was achieved with a performance of 106%.mresearch on the Overview of Prescribing for the Use of Acute Respiratory Infection (ARI) Drugs in outpatients at the Pantai Cermin Tanjung Pura Health Center. It was found that from the research results, ARI ranked first and affected female patients more, namely 94 prescriptions (53.71%), and with an age range of 1-15 years as many as 43 prescriptions (24.57%). ARI is an infection that starts from the respiratory tract, nose, throat, larynx, trachea, bronchi and alveoli. ARI is an acute infectious disease that attacks one or more parts of the respiratory tract from the nose (upper tract) to the alveoli (lower tract).

Treatment is a scientific process carried out by doctors or nurses on patients based on the diagnosis obtained. These efforts are carried out through a series of procedural stages consisting of anamnesis, examination, diagnosis, treatment and follow-up. Medicines are one of the important factors in health services. However, the World Health Organization (WHO) estimates that there are about 50% of all medicines used inappropriately in their prescription, preparation and sale. About 50% of the other are not used appropriately by patients. Improper use of drugs can cause many problems. These problems include aspects of effectiveness, side effects, interactions, economy and drug abuse. Therefore, in the use of drugs, proper consideration is needed so that their use is effective and efficient.

The main therapy for ISPA patients is carried out with antibiotic therapy and supportive therapy such as antihistamines, antipyretic analgesics, decongestants, corticosteroids, bronchodilators, mucolytics, expectorants and vitamins. The patient visit book is a book that contains a summary of patient treatment visits, and consists of patient identity, diagnosis, treatment therapy received/patient during treatment. Based on an initial survey conducted by researchers at the UPT. Health Center, the disease that ranked first in terms of patient visits was Acute Respiratory Tract Infection in the period January - April 2023. Based on this problem, the author is interested in conducting research with the title Overview of Drug Use/Drugs in Patients with Acute Respiratory Tract Infection at the UPT. Narumonda Health Center for Period January-April 2023 Based on the Patient Visit Book.

2. RESEARCH METHOD

This study used a quantitative descriptive approach to evaluate the contribution of nurses in improving patient compliance and health outcomes in hypertension care. The population in this study were hypertensive patients undergoing treatment at health centers and hospitals in region X, as well as nurses who were directly involved in handling hypertensive patients. Samples were taken using purposive sampling technique, with inclusion criteria: patients aged >18 years who have undergone hypertension treatment for at least 3 months, and nurses who have at least 1 year of work experience in related units. The sample size was 100 patients and 20 nurses. Data were collected through a structured questionnaire consisting of two main parts: (1) the patient's level of adherence to medication and healthy lifestyle, and (2) the form of intervention or role performed by the nurse. In addition, secondary data were taken from medical records regarding blood pressure and patient follow-up records. Data were analyzed using descriptive statistics to describe the frequency distribution and percentage of variables, as well as the Pearson correlation test to see the relationship between the nurse's contribution and the patient's level of adherence and health outcomes.

3. RESULTS AND DISCUSSIONS

3.1. Results

Table 1. Characteristics of ISPA Patients Based on Age at the Narumonda Health Center UPT based on patient visit books.

No	Age (years)	Frequency	Percentage (%)
1	1-10	18	30%
2	11- 20	8	13%
3	21-30	4	7%
4	31-40	2	4%
5	41-50	5	8%
6	51-60	3	5%
7	61 and above	20	33%

	Amount	60	100%
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Based on Table 1 above, the research results show that patients aged 61 years and above are more likely to suffer from ARI, namely 20 respondents (33%) and followed by those aged 1-10 years as many as 18 respondents (30%).

Table 2. Overview of drug use in ISPA patients at the Narumonda Health Center UPT for period January-April 2023 based on

No	Drug Classes	Frequency	Percentage (%)
I	ISPA medicine		
	1. Gol.Analgesic antipyretic	35	17%
	2. Antihistamines	36	18%
	3. Mucolytics	9	4%
	4. Gol. Corticosteroids	8	4%
	5. Gol. Antitussive	14	7%
	6. Gol.Bronchodinator	-	-
	7. Gol. Expectorant	9	4%
	8. Gol.Decongestant	-	-
	9.Gol.Vitamin	44	22%
II	Other Medications		
	1. Antibiotics	37	19%
	2. Gol. Other drugs	10	5%
	Amount	202	100%

Based on Table 2, the use of ISPA drugs that are most widely used are vitamins, which is 44 cases (22%). From the results of the study, it can be seen that in addition to ISPA drugs, other drugs are also used because some patients have other diseases, the most widely used are antibiotics, which is 37 (19%) cases.

Table 3. Overview of drug use in ISPA patients at the Narumonda Health Center UPT for period January-April 2023 based on

Group Drug	Type drug	Frequency	Percentage
Goal.Analgesic antipyretic	Paracetamol	35	17.32%
Gol.Antihistamin	Cetirizine	21	10.39%
	Chlorpheniramine maleat	11	5.44%
	Loratadine	4	1.98%
Gol.Mucolytic	Acetylcysteine	9	4.45%
Gol.Corticosteroids	Methylprednisolone	8	3.96%
Gol.Antitussive	Dextrofen syr	14	6.93%
Gol.Bronchodinator	-	-	-
Gol.Expectorant	Hustab syr	9	4.45%
Gol.Decongestant	-	-	-
Vitamin Goal	Vitamin C	16	7.92%
	Vitamin B complex	27	13.36%
	Vitamin B1	1	0.49%
Antibiotics Goal	Amoxicillin	21	10.39%
	Cefixime	12	5.94%
	Ciprofloxacin	4	1.98%
Gol.Medicine Other	Oralit	1	0.49%
	Lansoprazole	2	0.99%
	Sodium Diclofenac	2	0.99%
	Antacids	2	0.99%
	Donperidone	2	0.99%
	Amlodipine	1	0.49%
	Amount	202	100%

Based on Table 3, it shows that the most widely used ISPA drugs based on the type of drug are from the analgesic antipyretic group, the type of drug is paracetamol, as many as 35 cases (17.32%), and the lowest use of ISPA drugs based on the type is the bronchodilator group and the decongestant group, where in both groups there was no use of any type of drug in the period January-April 2023.

3.2. Discussion

Characteristics of ISPA patients totaling 60 cases obtained from the results of the study include age obtained from the patient visit book at the UPT. Narumonda Health Center. From table I it can be seen that the age range for suffering from ISPA is >61 years and above with a frequency of 20 respondents (33%) where those aged >61 years and above have a low or declining immune system so that they are susceptible to various infections and followed by those aged 1-10 years with a frequency of 18 respondents (30%). One of the main reasons why ages 1-10 are more susceptible to ARI is because their

immune system is not yet fully formed(Weigl et al., 2007). That is why, the body at that age finds it difficult to fight bacterial or viral infections that cause ARI.

In addition to immunity factors, the surrounding environment may also play a role in the transmission of ARI. In contrast to the results of a study conducted, the age group most susceptible to ARI is 1-15 years old with 43 prescription sheets (24.57%). Age has a significant influence on the occurrence of ARI, this ARI disease can attack anyone from children, adolescents, adults, even the elderly, especially those with weak immune systems. The high risk of ARI is in the age group less than 1 year and age > 61 years and above. In the age group > 61 years and above, susceptibility to ARI occurs due to a person's level of immunity and more activities outside the home so that they are more exposed to air containing ARI disease agents.

Based on the 2018 Mutualazimah study in the village of Cilbur Pengayuban regarding biological factors with the occurrence of ARI at the age of 6-11 years are more susceptible to ARI because the child's immune system is not yet able to fight the virus that enters. This can cause ARI to be attacked by laziness in washing hands, touching the face, not changing clothes after coming home from school or playing, various uses of cutlery, difficulty eating and drinking. Based on the results of the study in table II, the use of drugs in patients with acute respiratory infections (ARI) at the Narumonda Health Center UPT based on the group.

Of the 60 cases of ARTI sufferers, there were 202 drug items. The most widely used ARTI drugs were the vitamin group, which was 44 cases with a percentage of 22%. From the results of the study, it can be seen that in addition to ISPA drugs, other drugs are also used, this is because there are patients who have comorbidities, where the group that is widely used is antibiotics as many as 37 cases with a percentage (19%). In contrast to the results of the study conducted by Marisi, (2020) Based on the data, the most widely prescribed group is cough medicine (32.82 %) as many as 150 items. Vitamins are food supplements that are very necessary in helps maintain metabolism in a person's body so that it can speed up healing. Antibiotics are a type of drug that is most common and most widely used to treat infections such as ARI.

Based on the statement from the Ministry of Health, the majority of respiratory symptoms are mild, for example colds and coughs that do not require antibiotics(Fischer et al., 2005). But the use of antibiotics for these symptoms can make the healing process of this type of disease faster than being given symptomatic drugs, not only that the use of antibiotics with the right dose can anticipate further infection from bacteria, therefore the determination and administration of antibiotics for the disease are really considered so as not to cause defense (resistance) of germs or bacteria in the future. Cough medicine is a drug used to reduce cough symptoms due to various causes including viral infections in the upper respiratory tract(Dicpinigaitis et al., 2009). Based on the results of an interview conducted with one of the doctors at the UPT. Narumonda Health Center, the provision of antibiotics on the prescription is not always given because the main cause of ARI at the UPT. Narumonda Health Center is mostly caused by viruses where the disease will heal on its own (self-limiting disease), so it does not always require antibiotic treatment and only provides symptomatic treatment such as analgesics, antitussives, or vitamins to increase immunity.

Based on research conducted by Anonymus 2022 at the Karangnongko Health Center, the use of antihistamines in ARI patients was 83 patients (53%). Because Antihistamines are generally used to treat ARI symptoms and are not curative, although most ARI will improve without treatment within 1 week(Min, 2010). Based on the results of the study in table III, the use of drugs in patients with acute respiratory infections (ARI) at the Narumonda Health Center UPT based on type shows that from the analgesic antipyretic group, the most widely used type of drug is paracetamol in 35 cases with a percentage of 17.32% with the total number of ISPA drug use based on its type of 202 cases and the type of drug that is widely used is also vitamin B complex in 27 cases with a percentage (13.36%). This is different from the results of the study by Ovikarian et al., (2013) where the administration of the most ISPA drug was amoxicillin, which was 92%.

Treatment for ARI does not only focus on treating the infected respiratory tract, but also requires supportive therapy to treat the symptoms caused by the infection. One of the treatments that can be done in treating ARI is using antipyretic analgesics. Paracetamol is a drug in the NSAID class which is more often used as an analgesic and antipyretic. The mechanism of action of this drug is to inhibit prostaglandin synthesis in the brain so that the analgesic and antipyretic effects are better. Vitamins and

minerals are very necessary for someone who is to increase endurance and help maintain metabolism in a person's body so that it can accelerate healing. Amoxicillin is the most effective and most widely used penicillin antibiotic, which is free from toxic properties and is most often used incorrectly and excessively. Based on research conducted by Suhandayani 2022 At UPT.Puskesmas Tembilahan Hulu, the use of Cetirizine amounted to 179 people (56.3%). This Ceterizine is included in the second generation and was developed so that it does not cause drowsiness only or only causes minimal drowsiness. This is achieved by increasing the selectivity of the H1 receptor, and adding compounds to reduce the crossing of the brain barrier.

4. CONCLUSION

This study shows that nurses play an important role in improving hypertension patients' adherence to medication and lifestyle changes. Through an educative and communicative approach, nurses help patients understand their health condition and the importance of consistently following medical recommendations. Appropriate and continuous education from nurses has been proven to increase patient awareness of the risk of hypertension complications if not managed properly. nurses also act as facilitators and companions in the process of chronic disease management. Routine blood pressure monitoring, medication reminders, and follow-up on the patient's condition are important parts of nursing interventions. These activities provide a sense of security and increase patient confidence in undergoing therapy, thus having a positive impact on clinical outcomes, such as reduced blood pressure and improved quality of life. The results also showed a positive relationship between the intensity of nurse involvement and the level of patient compliance. The more active the nurse is in providing care and support, the higher the level of patient adherence to medication and lifestyle modifications. This confirms that the presence of nurses is not only administrative, but has a strategic role in the successful management of hypertension. The emotional and psychological support provided by nurses helps patients overcome stress and anxiety, which are often barriers to long-term care. Good interpersonal relationships between nurses and patients create an environment conducive to sustainable behavior change. It can be concluded that the contribution of nurses is crucial in efforts to improve adherence and health outcomes in hypertension care. Therefore, it is necessary to strengthen the capacity of nurses through training, supporting policies, and integrating the role of nurses in the primary health care system so that the results achieved can be more optimal and sustainable.

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