



Precautionary complications on hypertension with Health Belief Model (HBM) approach: A descriptive study of health center community in The Garut Region of Indonesia

Vina Nurhandiya¹; Desy Indra Yani²; Iwan Shalahuddin^{3*}

^{1, 2, 3*} Universitas Padjajaran

ARTICLE INFO

Article history:

Received December 28, 2019
Accepted March 29, 2020
Published June 05, 2020

Keyword:

Health Belief Model
Hypertension
Prevention of complication

ABSTRACT

Hypertension is not a contagious disease that becomes health problems with high prevalence. Hypertension is at risk for complications. The application theory of the health belief model (HBM) is an effort to prevent hypertension by identifying the patient's perception. The purpose of this study was to determine the description of the prevention of complications in hypertensive patients at the Tarogong Garut Health Center using the health belief model (HBM) approach. The research method used descriptive quantitative. The population of hypertension patients at Tarogong Public Health Center by 72 samples of patients. Data analysis used a percentage value of each domain presented in the form of frequency distribution table to each variable studied. The results showed that from 5 dominant areas both were perception of barrier good (4.2%) and deficient (95.8 percent), deficient of susceptibility perception (100 percent), lacking severity perception (100%), lacking benefits perception (100 percent), and deficient of cues to action (100 percent). The conclusion of this study if somebody has a good perception of their illness, then they will focus on the prevention and control the condition of health problems. If the perception is not good, then somebody will tend to ignore health problems. Nurses should be able to provide knowledge about hypertension and the complications caused by the disease and can raise the awareness of patients to perform regular blood pressure checks.

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Karakteristik pasien stroke: Deskripsi analitis pada pasien rawat jalan di rumah sakit di Semarang Indonesia

ABSTRAK

Hipertensi penyakit tidak menular yang menjadi masalah kesehatan dengan prevalensi yang tinggi. Hipertensi beresiko terhadap komplikasi. Penerapan teori health belief model (HBM) digunakan sebagai upaya pencegahan hipertensi dengan mengidentifikasi persepsi pasien. Tujuan penelitian ini adalah mengetahui gambaran pencegahan komplikasi pada pasien hipertensi di Puskesmas Tarogong Garut menggunakan pendekatan health belief model (HBM). Metode penelitian menggunakan deskriptif kuantitatif. Populasi pasien hipertensi di Puskesmas Tarogong dengan jumlah sampel 72 pasien. Analisa data menggunakan persentase nilai dari setiap domain, yang disajikan dalam bentuk tabel distribusi frekuensi terhadap masing-masing variabel yang diteliti. Hasil penelitian menunjukkan bahwa dari 5 domain yang dominan baik adalah persepsi hambatan baik (4,2%) dan kurang baik (95,8%), persepsi kerentanan kurang baik (100%), persepsi keparahan kurang baik (100%), persepsi manfaat

Kata kunci:

Health Belief Model
Hipertensi
Pencegahan komplikasi

*) corresponding author

Fakultas Keperawatan Unpad Kampus Garut
Jl. Proklamasi No. 5 Tarogong Kidul
Kabupaten Garut. Kode Pos 441511

Email: shalahuddin@unpad.ac.id

DOI: <https://doi.org/10.30604/jika.v5i1.274>

kurang baik (100%), dan isyarat bertindak kurang baik (100%). Kesimpulan pada penelitian ini jika persepsi seseorang baik terhadap penyakitnya maka seseorang akan terfokus pada pencegahan dan mengontrol kondisi gangguan kesehatannya, dan jika persepsinya kurang baik maka seseorang akan cenderung mengabaikan masalah kesehatannya. Perawat harus bisa memberikan pengetahuan mengenai penyakit hipertensi dan komplikasi yang ditimbulkan dari penyakitnya, serta bisa menumbuhkan kesadaran pasien untuk melakukan pemeriksaan tekanan darah secara rutin.

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Introduction

According to WHO records in 2011, around one billion people worldwide suffer from hypertension, hypertension cases cause around 60% of deaths and 43% cause pain worldwide (Balitbang of Ministry of Health, 2013). In Indonesia, the incidence of hypertension based on blood pressure measurement was 25.8% and 9.4% based on the diagnosis of health workers. If the current population of Indonesia was 252.124.458 people, there are 65,048,110 people suffering from hypertension (Balitbang Kemenkes, 2013) and Indonesia is ranked 5th in the World with complications (5.3%). According to data and information from the Indonesian Ministry of Health, the number of hypertension sufferers in 5 provinces with the highest prevalence, one of which is West Java Province, was ranked fourth (4) with an absolute (people) number of 29.4% (Riskesmas 2013). Based on the health profile of the West Java Province in 2012 stated that the prevalence of hypertension cases in West Java was still high at 95.53 / 10,000 in 12 cities / districts, one of which is Garut District.

According to SRS Indonesia data (*Sample Registration System*) in 2014, hypertension with complications (5.3%) was the number five cause of death (5) at all ages. If high blood pressure was not treated properly it will have an impact on its complications

Hypertension has various complications including stroke, kidney failure, diabetes mellitus, coronary heart disease, and visual impairment. The highest mortality rates were 51% of stroke and 45 % of coronary heart disease (Situmorang, 2015).

Community health development efforts here are very instrumental in growing public awareness of their own health in order to improve the quality of life. As well as health facilities or health care facilities that support these efforts in order to prevent and overcome health problems that include hypertension in the local community. This case is increasing along with an increase in age, lifestyle, stress, and unhealthy environment. Furthermore, there are no desire by them to improve the life quality in the health sector.

Hypertension complications preventions need to be well understood by the patient so, this hypertension case can be controlled and it does not pose a risk of complications. This hypertension was a chronic disease so the patient must be able to take health actions and control himself for a healthy life. This perception description was a thought process experienced by a person before taking various kinds of health actions, the decision to take this action was influenced by various information from the surrounding environment as well as for the instructions in carrying out these actions (Edberg, 2010).

Each individual has their own different ways of taking action for prevention and cure of health problems. This action depends on the individual's confidence in taking action on whether to use access to health services or not. The belief was related to cognitive such as knowledge about health problems and individual perceptions about the disease symptoms they feel (Setiyaningsih et al, 2016).

Perception-based on the *Health Belief Model* (HBM) was used in the health promotion field to minimize complications arising from preventive behaviors such as controlling, preventing and treating hypertension. Components of this HBM include vulnerability perceptions, severity perceptions/emergency, benefits perception/advantage, barriers perception, and cues for action (Kasmaei et al, 2015).

The lifestyle of hypertensive patients can directly affect blood pressure values. This study showed how the *Health Belief Model* (HBM) contributes to the adoption of a healthier lifestyle, focusing on adherence to treatment and identifying problems that must be addressed in the nurse-patient relationship (Barros et al, 2014) and self-efficacy, perceived benefits, perceived barriers and perceived threats are directly related to hypertension prevention behaviour. Whereas perception of vulnerability, perception of seriousness, and *cues to action* are indirectly related to hypertension prevention behaviour (Setiyaningsih et al, 2016).

HBM can explain prevention behaviour and individual response to disease. HBM confirms that a person's perception of the vulnerability and efficacy in treatment can influence a person's decision on behaviour towards his health. The core of this theory was initially to look for health behaviours that are motivated by four (4) factors namely, vulnerability perception of, severity perception, benefits perception, and barriers perception to act.

Hypertension patients are at risk of experiencing various complications, to prevent these complications patients need to have a good perception for the prevention of complications based on HBM. These include: vulnerability perception which refers to one's subjective perception of the risk of health conditions and susceptibility to the disease at hand.

Severity perception of the disease seriousness and the desire to carry out clinical treatment and the severity vulnerability of the disease was perceived threats. Benefits perception are thoughts about the positive benefits or benefit results of their actions.

Barriers perception was a negative aspect of perceived health action that is believed to be the result of its actions. The action gesture was the readiness to take action and

behave, which is motivated by the surrounding environment. Self Efficacy is the ability to take action, individuals have desires, skills related to the actions needed.

The total coverage of hypertension sufferers at the Tarogong Health Center was 1,690 in 2017 (the annual public health center report) and for the visit number in the last three months of 2018 there were 867 hypertensive patients with an average age of 45-54 years. Judging from the above number, hypertension sufferers were still high in the Tarogong Health Center area, but this number was recorded at the Public Health Center and those using health facilities. There may still be some unknown or no visit to the Public Health Center.

The preliminary study results showed if hypertension patients suggest that hypertension was a common disease and did not need excessive attention, did not routinely control blood pressure and ignore treatment. Then, the patients did not know about complications arising from this hypertension.

Method

The type and design of the research used were quantitative descriptive. This study aims to provide an overview of perceptions based on the *Health Belief Model* (HBM) for hypertension complications prevention at the Tarogong Garut Health Center.

The sampling technique in this study used non-probability with an accidental sampling approach. In this study, the researchers determined the size of the sample of 256 populations in the Tarogong Garut Community Health Center. The amount of sampling was calculated using the Slovin formula with a confidence level of 90% and an error rate of 10% and a sample of 72 hypertensive patients was obtained.

Respondent criteria that were sampled were hypertension patients who met the inclusion criteria. This sampling was based on the following criteria: 1) Patients in the working area of the Tarogong Community Health Center; 2) Patients who have hypertension; 3) Patients who did not have hypertension complications.

The instrument in this study used a health trust model questionnaire. The instrument used is the standardized instrument proposed by Alphonse 2012. HBM variables measured such as severity perceived as having hypertension, perceived vulnerability are at risk of hypertension complications, perceived obstacles, the benefits of taking action and cues to take recommended actions. Then respondents were asked to answer: (4) strongly agree, (3) agree, (2) disagree and (1) strongly disagree. Six items for measuring severity perceptions, six items for measuring vulnerability, six items for measuring benefits perceptions, five items for measuring barriers perceptions and five items measure for measuring cue act.

Data collection was carried out at the Tarogong Garut Health Center in June 2018 and data processing was carried out through the stages of *editing, coding, data entry* and *data cleaning* which were then carried out univariate data analysis using frequency distribution.

Results and Discussion

The study results which are perceptions based on the *Health Belief Model* (HBM) for the prevention of the complications in hypertensive patients are presented in the form of the following tables:

Tabel 1
 Frequency Characteristics Distribution of Respondents by Age, Gender, Marital Status, Education Level and Employment (N=72).

Respondent Characteristic	F	(%)
Age		
< 56 Years	37	51,4
> 56 Years	35	48,6
Gender		
Male	26	36,1
Female	46	63,9
Marital Status		
Married	70	97,2
Single	2	2,8
Education Level		
Elementary	28	38,9
Middle School	24	33,3
High School	17	23,6
College	3	4,2
Employment		
Does not work	21	29,2
Farmers	4	5,6
Civil servants	3	4,2
Self-employed	12	16,7
Etc	32	44,4

Based on table 1 showed that the demographic characteristics of hypertensive patients in the Tarogong Health Center based on age <56 years (51.4%) and age > 56 (48.6%) with the dominant sex, namely Female Gender (63.9%) and Men (36.1%). Marital status of these hypertensive patients who are married (97.2%) and not married (2.8%). The education level of these respondents was an elementary school (38.9%), middle school (33.3%), high school (23.6%) and college (4.2%). These hypertensive patients with non-working employment status (29.2%), Farmers (5.6%), Civil Servants (4.2%), Self-employed (16.7%) and Others (housewife) (44.4%)

Table 2
 Respondents Frequency Distribution Based on Health Data (N=72).

Respondent Characteristics	F	(%)
Hypertension Suffering Duration		
< 1 Year	63	87,5
> 1 Year	9	12,5
Hypertension Symptoms		
Headache	72	100
Limp / fatigue	50	69,4
Out of breath	5	6,9
Restless	16	22,2
Nausea	4	5,6
Vomiting	2	2,8
Decreased Consciousness	1	1,4
Types of Drugs taken		
Amlodipin	51	70,8
Captopril	21	34,7
Illness		
High Cholesterol	2	2,8
Rheumatic	3	4,2
Blood Pressure		
100-150 mmHg	20	27,8
160-200 mmHg	52	72,2
Weight		
< 59 Kg	31	43,1
> 59 Kg	41	56,9

Respondent Characteristics	F	(%)
Height		
< 157 cm	33	45,8
> 157 cm	39	54,2
Body Mass Index		
< 17,0/thin	37	51,4
> 18,5/normal	35	48,6
Total	72	100

Based on table 2 showed hypertension duration from respondents was less than one year (87.5%) and more than one year (12.5%). Hypertension symptoms of experienced by the patient are headache/dizziness (100%), feeling limp/fatigue (69.4%), out of breath (6.9%), feeling restless (22.2%), nausea (5.6%) and some vomited (2.8%) and experienced a decrease in consciousness (1.4%). The types of drugs taken are Amlodipin (70.8%) and those not using it (29.2%), the next is captopril drug (34.7%) and those who don't use it (65.3%).

Except for high blood pressure, the disease suffered by patients also includes cholesterol (2.8%) and rheumatic (4.2%), for the average value of high blood pressure that is from 100-150 (27.8%) and 160-200 (72.2%). For weight categorized, there are less than 59 kg (43.1%) and more than 59 kg (56.9%), for height less than 157 cm (45.8%) and more

than 157 (54,2%), Body Mass Index (BMI) was categorized as less than 17.0 / thin (51.4%) and more than 18.5 / normal (48.6%).

Table 3
 Respondents Frequency Distribution (N=72)

Variable	Frequency	(%)
Health status perception		
Not healthy	63	87,5
Healthy	9	12,5
Psychological stress		
Yes	69	95,8
No	3	4,2
Physical stress		
Yes	10	13,9
No	62	86,1

Based on table 3 showed that the patient's perception of their health status there are those who feel not healthy (87.5%) and who perceive healthy (12.5%). There are those who experience psychological stress / many thoughts (95.8%) and did not experience psychological stress (4.2%) and experience physical stress (13.9%) and those who did not experience physical stress (86.1%).

Table 4
 Overview of Health Belief Model Perception in Each Domain (N=72)

Variable	Frequency (f)		Percentage (%)	
	Good	Poor	Good	Poor
Perception	0	72	0	100
Severity Perception	0	72	0	100
Vulnerability Perception	0	72	0	100
Benefits Perception	0	72	0	100
Barriers Perception	3	69	4,2	95,8
Cue act	0	72	0	100

Based on table 4 showed that the average score of each domain in *health belief model* perception (N = 72) was categorized with good and poor perceptions of each variable domain including: severity perception was poor with numbers (100%), vulnerability perception was poor (100%), benefits perception was poor with the amount (100%), barriers perception was good (4.2%) and poor (95.8%), the cue to act was not good (100%).

This *health belief* was an individual's belief about his health that enables a person to take preventative or treatment actions, this belief was an initial concept that can explain a person's behavior (Nurfitriyana, 2015).

The perception was poor, if it is associated with lifestyle habits and habits in controlling blood pressure, because if the value of this perception was good then respondents can take care and control blood pressure. Severity perception was poor, this is closely related to the patients' education level who are dominant up to elementary school (38.9%), and the average patient did not have health insurance and the habit of consuming excess salt.

If seen from the results of this study, it was closely related to patients' lacking knowledge about hypertension. So, the efforts are needed, such as frequent counselling efforts and people who have hypertension can participate in counselling activities, hold Integrated Healthcare Center programs routinely and hypertensive patients participate in it, or can make a home visit.

This statement was in line with the research of Larki, Tahmasebi & Reisi (2018) that the severity perception

disease was lower, This may be due to poor health literacy which makes patients have less knowledge about hypertension and its complications. Therefore, it seems that educating patients with limited health knowledge about blood pressure and its complications can be effective in creating a trust to understand the threat of high blood pressure.

Whereas according to other studies mention that the severity felt for hypertension did not show a significant relationship with consistent medication adherence (Kamran, et al, 2014)

Patients' perceptions of vulnerability were poor when viewed from these patient lifestyle factors. The data showed that patients did not limit eating according to the recommendations for hypertensive patients and the habit of consuming salt > 5 gr / 1 tsp and the respondent condition with an average older age.

This was in line with the research of Larki, Tahmasebi & Reisi (2018) which showed that the low vulnerability perception was influenced by low salt dietary habits and smoking behavior, but in this study respondent who smokes did not dominant. In this study also obtained the data that averaged all respondents consume excessive fatty foods.

Low perceptions of vulnerability can affect the health behaviors of patients and hypertensive. Then, the patients with low health knowledge need health care providers to intervene in changing their beliefs to the point that they are vulnerable and at risk for complications from hypertension (Larki et al. 2018). However, this was not in line with the

research of Setiyaningsih, Didik & Nunuk (2016) which states that the perception of vulnerability was indirectly related to hypertension prevention behaviour.

There was a similarity with the results of Edwards's study (2015) with increasing age associated with low susceptibility to hypertension, and factors that affect perceived vulnerability due to greater treatment costs and related use of hypertension drugs. The similarities from the results of this study because it has the same respondent characteristics.

Benefits perception was not good where a statement was obtained that the patient could not comply with the treatment and maintain blood pressure.

The study results showed that the barriers perception was good, this was very closely related to lifestyle habits of patients who can adhere to the hypertension diet by reducing salt consumption and consumption of fatty foods. In addition, the results of barriers perception were not well associated with unfavourable lifestyle factors, such as did not comply with medication habit and did not adhere to his diet.

This was in line with the research of Kamran et al. (2014) suggesting that unfavourable barriers perception arises from non-compliance with treatment. Whereas in the study of Claudia et al (2012), it was found that the barriers in adhering to the restriction of a low salt diet with a score of 50.9%. Some patients totally disagree with consuming foods with a little salt because foods with a little salt have no taste.

The cue act was poor if it is associated with health data from respondents who mostly did not participate in prolanis activities. This matter illustrates that respondents were not compelled to take preventative measures.

Conclusions and Recommendations

The perception of the *health belief model* (HBM) is a model of health promotion field to minimize complications from a health problem. Based on the research results in perceptions based on the *health belief model* for the prevention of the complications in hypertensive patients at the Tarogong Garut Health Center, the average value of these patients' perceptions was poor. If a person's disease perception disease was good, a person will focus on preventing and controlling the condition of his health problems, and if his perception was not good then someone will tend to ignore his health problems.

It is hoped that community nurses will provide knowledge about the diseases and complications arising from hypertension. In addition, they can foster awareness of hypertension patients to carry out routine blood pressure checks, and patients can routinely participate in Integrated Development Post (Posbindu) activities or participate in Prolanis activities to prevent and be able to control their condition.

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