

Related Factors, Causes and Stress Respons of Hypertension Patients in Coastal Communities: Mixed Method

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ABSTRACT

Hypertension is a non-communicable disease (NCD) that is now a health problem that is difficult to control in number and is the cause of high mortality and morbidity rates globally. In addition to the prevalence of events that are increasing over time, hypertension is also known to be dangerous because it is a risk for other chronic diseases such as heart disease and stroke disease. This study aims to analyze the incidence and related factors of hypertension in coastal communities in Motui District, North Konawe Regency, Southeast Sulawesi Province. The research design uses a mix of quantitative and qualitative methods. Quantitative methods use cross-sectional while qualitative methods by determining themes. The sample in the study was 60 people with hypertension. Sampling technique with non probability sampling with consecutive sampling method. The results showed that 44 people (73.3%) experienced severe stress and 16 people (26.7%) experienced moderate stress. Some factors that cause stressful events are gender ($p = 0.002$), and occupation ($p = 0.000$). The cause of stress experienced is due to the heavy workload, economic difficulties and personal problems. While the response of hypertension patients who experience stress is anger, anxiety and pressure and crying. The conclusion of this study is that people with hypertension experience severe stress caused by workload, economic and personal problems.

Keywords: *Hypertension, Stress, Causes of Stress, Stress Respons, Mixed Method*

<https://doi.org/10.33860/jik.v17i3.3060>



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INTRODUCTION

Hypertension is one of the non-communicable diseases (NCDs) which is currently a health problem that is difficult to control in number and is the cause of high mortality and morbidity rates globally. In addition to the increasing prevalence of events over time, hypertension is also known to be dangerous because it is a risk for other chronic diseases such as heart disease and stroke disease¹. Hypertension is a condition where blood pressure increases beyond the normal threshold, where systolic is more than 140

mmHg and diastolic is more than 90 mmHg at rest².

People with hypertension continue to increase globally, along with the increasing population. Although preventive, curative and rehabilitative efforts have been made, it has not reduced the incidence of hypertension. It is estimated that as many as 1.3 billion people in the world suffer from hypertension and are dominated by people who have lower middle income³. Basic Health Research (RISKESDAS) in 2018 gave results that the incidence of hypertension in Indonesia (aged >18 years, through blood pressure measurement) was 34.1%. This presentation

has increased when compared to hypertension data in Riskesdas in 2013 which was 25.8%. Hypertension disease is the ten most common major diseases in Southeast Sulawesi with a prevalence of 33.62%⁴. In Motui District, hypertension is also the top ten diseases with a total of 204 patients.

Hypertension is experienced by the population with an average age of >40 years, more at risk in those who are obese, aggravated by unhealthy lifestyles such as smoking and lack of activity, high-salt diets, frequent experience of stress or stress, and a family history of hypertension⁵. Patients who experience hypertension complain of various symptoms and there are also patients who do not show symptoms. People with hypertension generally experience mild to moderate headache, heaviness in the nape, complain of fatigue, blurred vision, heart palpitations, ringing ears and vertigo⁶.

Hypertension is a chronic disease that is difficult to cure with a high recurrence rate. Because it is difficult to cure, this disease becomes an unpleasant psychological experience for the sufferer. Fear and worry about the recurrence of the disease, the possibility of hypertension getting worse and causing complications, long treatment time and the amount of costs spent in the long treatment process. Not only afraid and worried about disease, people with hypertension also experience an increase in financial burdens and the emergence of problems in family relationships⁷. This condition will trigger the emergence of stress in people with hypertension.

Stress is an emotional condition in the form of feelings of tension triggered by physical, emotional, social, economic, work or circumstance, difficult events and experiences that make it difficult for a person to endure. Stress conditions experienced by a person affect their performance, both emotional conditions and performance at work. Stress makes it difficult for a person to concentrate so that it decreases productivity at work. Stress also affects emotions so that it has an impact on a person's relationship with others. Stress triggered by load demands⁸.

When experiencing stress, arteries that function to channel blood to the organs of the body will vasoconstriction which causes blood pressure in the arteries to increase. When the body experiences stress, the sympathetic

nervous system will be stimulated. As a result, the body will give a response such as heart rate will become faster and blood vessels will experience vasoconstriction resulting in an increase in blood pressure⁹. The stress experienced by hypertensive patients will aggravate the condition of the disease where blood pressure will be difficult to control.

This study aims to analyze the incidence and related factors of hypertension events in coastal communities in Motui District, North Konawe Regency, Southeast Sulawesi Province.

METHOD

This study uses a mix method design, which is a combination of quantitative methods and qualitative methods to analyze stress events. A mix method design is used in research so that researchers can obtain a more complete and in-depth picture of the phenomena that will be explored in this research. In this study, an analysis was carried out of several factors that influence stress in hypertension sufferers through quantitative analysis. Then the researchers explored the phenomenon that causes stress in hypertension sufferers through qualitative analysis

The research was carried out in the coastal area of Motui District, North Konawe Regency, Southeast Sulawesi Province, from June – August 2023. The population in this study is people with hypertension in the coastal area of Motui District. The sample in this study was 60 people. Sampling technique with consecutive sampling. This method was chosen because the samples to be taken must comply with the sample selection criteria, namely samples that are hypertension and experiencing stress. Determining strict criteria can avoid the possibility of bias in this study.

Before collecting data, researchers have obtained ethical feasibility to conduct research. Ethical eligibility is obtained from the Ethics Committee with number DP.03.04/100/2023 according to 7 WHO 2011 Standards referring to the 2016 CIOMS Guidelines. There are no ethical violations in the research process, because this research does not cause harm and does not harm the sample, guaranteeing confidentiality and privacy of the sample.

Quantitative collection, namely the level of stress, was carried out using a Perceived Stress Scale (PSS) questionnaire consisting of

10 question items that had been valid, reliable. Qualitative data collection was conducted through in-depth interviews with 10 samples with severe stress categories using phenomenological stages according to Spielberg in exploring the causes of stress and responses in response to stress experienced.

Quantitative data analysis using univariate and bivariate analysis with the help of SPSS V.24. While qualitative data is analyzed to find themes

RESULTS

Quantitative Analysis

This section describes age, gender, education, and occupation. All data in categorical form is depicted in proportion. The results of univariate analysis for variables with categorical data types are shown in the table below:

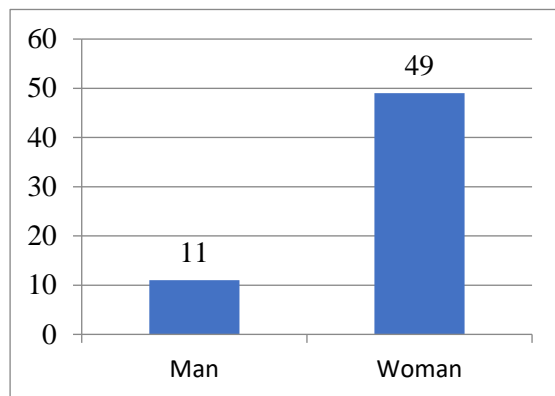


Chart 1. Distribution of respondent frequency based on respondent gender (n = 60)

Based on chart 1 above, it is known that there are 49 (81,6%) Woman and 11 (18,4%) Man of respondent.

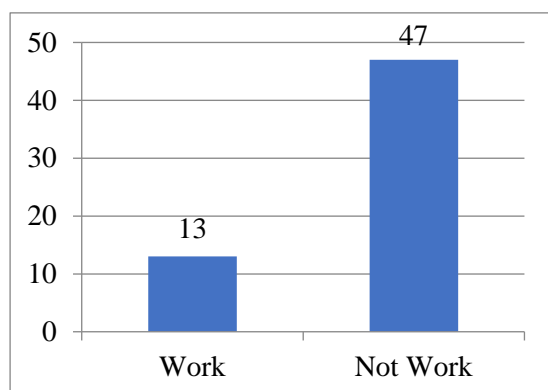


Chart 2. Distribution of respondent frequency based on respondent working (n = 60)

Based on chart 2 above, it is known that there are 47 (78,3%) of respondent work and 13 (21,7%) of respondent does not work.

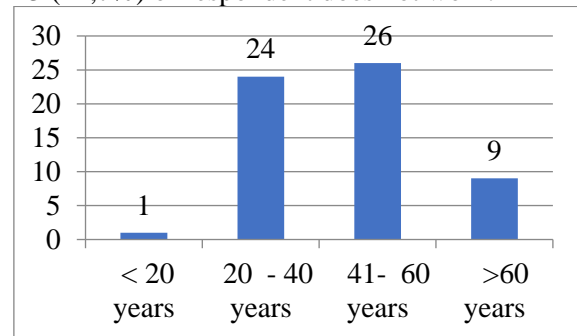


Table 1. Distribution of respondent frequency based on respondents' stress level (n= 60)

Stress Level	Frequency	%
Severe stress	44	73.3
Moderate stress	16	26.7
Sum	60	100.0

Based on table 1 above, it is known that the average respondent was in the severe stress range of 44 respondents (73.3%)

Table 2. Analysis of the Relationship between Sex and Respondents' Stress Levels

Gender	Stress Level		Total	p-value
	Moderate	Severe		
Man	7 (11,6%)	4 (6,7%)	11 (18,3%)	0.002
Woman	9 (15%)	40 (66,7%)	49 (81,7%)	
Total	16 (26,6%)	44 (73,4%)	100 (100%)	

Based on table 2 above, it is known that the average respondents with female sex are in the range of severe stress category while men are generally in the moderate stress range. From the results of the analysis it is known that there is a relationship between sex and stress level marked by a value of $P = 0.002$ ($p\text{-value} < 0.05$).

Table 3. Analysis of the Relationship of Work with Respondents' Stress Levels

Work	Stress Level		Stress Level	p-value
	Moderate	Severe		
Work	8 (13,3%)	3 (5%)	11 (18,3%)	0.000
Not Work				

Dose Not Work	8 (13,3%)	41 (68,4%)	49 (81,7%)
Total	16 (26,3 %)	44 (73,4%)	100 (100%)

Based on table 3 above, it is known that the average respondents who did not work were in the range of severe stress category as many as 41 respondents (68.4%). From the results of the analysis it is known that there is a relationship between work and stress levels marked by P value = 0.000 (p value < 0.05).

Table 4. Analysis of the Relationship between Age and Respondents' Stress Levels

Age	Stress Level		Total	p-value
	Moderate	Moderate		
< 20 years	0 (0 %)	1 (1,6%)	1 (1,6%)	0.17
20-40 years	6 (10%)	18 (30%)	24 (40%)	
41-60 years	5 (8,3%)	21 (35%)	26 (43,3%)	
< 60 years	5 (8,3%)	4 (6,7%)	9 (15%)	
Total	16 (26,7 %)	44 (73,3%)	100 (100%)	

Based on table 4 it is known that the results of the analysis are known to have no relationship between age and stress level marked by P value = 0.174 (p value > 0.05).

Qualitative Analysis

In this section, researchers will explain the overall theme based on respondents' answers to several questions that refer to the specific objectives of the study

Causes Analysis of stress with hypertension patients

Theme 1: Workload

Four participants in the study said the problems faced were more work-related. Participant statements are expressed as follows :

" berat sekali kerja ditambang, sa stress karena tiap hari masuk dan hanya libur 1 kali sebulan.." (p1)

" It's very hard to work in mining, i'm stress because every day comes in and only takes 1 time a month off." (P1)

"... banyak maunya bos dan sa ditegur terus....." (p3)

"... the boss so demands a lots and I'm to be reprimanded continuously....." (P3)

".... sa cape kerja dengan shift apalagi sy masih

baru " (p6)

".... I'm so exhausted by work with shifts moreover i'm is still new worker" (p6)

"..... berat kerjaku ditambang, tidak kerja , ndak ada uang kasian....." (p10)

"..... work at mining is too hard, not work, there is no cash..." (P10)

Theme 2: Difficult economy

Three participants in the study said the problems faced were more related to family economics. Participant statements are expressed as follows:

"..... Susah kasian uang di jaman sekarang, mana banyaknya kebutuhan..." (p2)

"..... It's hard to spend money nowadays, where there are so many needs..." (P2)

"..... puuu sulit hidup,suami barupi masuk tambang jadi belumpi terima gaji..." (p4)

"..... Puuu has a hard time living, my husband is a new worker at mining so he hasn't received a salary..." (P4)

"... nda susah sekali ji hidup,, cuman sulit kasian dapat uang. Sa stress hmm .." (p8)

"... It's very hard for you to live,, it's just hard to get money. I'm so stress out hmm.." (P8)

"... suamiku adaji kerjanya, tapi banyak juga cicilan kasian..." (p5)

"... My husband has work, but there are also many installments..." (P5)

Theme 3: Personal issues

Two participants in this study said the problems faced were more related to personal problems. Participant statements are expressed as follows:

"... hmm.. sa hidup bertiga dengan anakku.. suami suda meninggal...berat hidup deela..." (p7)

"... hmm.. i live with three sons.. my husband passed away... my life is so hard and poor..." (P7)

"... bapaknya anak-anak menikah lagi, dia ndak pernah mi lagi kasi uang..." (p9)

"... The father of the children remarried, he never noodle money anymore..." (p9)

Analysis of the response of participants with hypertension to stress experienced

Theme 1: Anger

Six participants in this study said the participants' response to the problem at hand was anger. Participant statements are expressed as follows:

“... saya kecewa, marah dengan suami karena dia pergi dengan itu janda...” (p9)
 “... I was disappointed, angry with my husband because he went with that widow...” (P9)
 “... hmmm, pernah mi itu sa marah sama bosku... kita kerja tapi ndak pernah dihargai...” (p3)
 “... hmmm, I ever get angry with my boss... our hard work never appreciated...” (P3)
 “...kadang sa marah juga, kenapa kasian ini hidup susah terus... tapi mau diapami...” (p1)
 “... Sometimes I get angry too, why is this living too hard to continue... but want to be apathy...” (P1)
 “... puu ma sa marah sama suami, kita mau makan apami klo ndak ada uang...” (p4)
 “... puu I get angry with my husband, there is no meal we don't hane any money...” (P4)
 “... marah karena hidup ndak berubah.. susah terus...” (p8)
 “... angry because life hasn't changed. it's hard to continue...” (P8)
 “... marah sama diri sendiri, karena ndak bisa merubah nasib...” (p6)
 “... angry with myself, because i can't change my fate...” (P6)

Theme 2: Restlessness and stress

One participant in this study said the participants' response to the problems faced was anxiety and distress. Participant statements are expressed as follows:
 “... bagaimana kah itu kalo ndak adami uang, tertekan kasian.. gelisah jangan sampe tidak bisami makan...” (p2)
 “... How is it if you don't have money, I'm so depressed... so stressed there is nothing for meal...” (P2)

Theme 3: Alone

One participant in this study said the participant's response to the problem at hand was solitude. Participant statements are expressed as follows:
 “... waktu suami meninggal, ada 1 minggu sy dikamar saja.. sa bingung bagaimana mi kasian hidupku sama anak-anak...” (p7)
 “... When my husband passed away, I stay at bedroom for one week.. I'am confused how poor my life with the children...” (P7)

Theme 4: Crying

Two participants in this study said the participants' response to the problem was crying. Participant statements are expressed as follows:

“...sa pernah mi menangis .. sulit juga kerja ditambang..berat...” (p10)
 “...i cried a lot.. too hard work at mining.....” (p10)
 “...pernah mi itu sa menangis karena ndak ada uang... stress kasian...” (p5)
 “...i've cried because there was no money... I'm so stressed...” (P5)

DISCUSSION

Stress occurs due to various pressures in a person's life. Stress can cause body changes both physically and psychologically. Stress can trigger an increase in blood pressure or vice versa. Stress in people with hypertension if not overcome can be a trigger factor for the emergence of other diseases that lead to complications of the disease¹⁰.

Related Factors to Stress of Hypertension Patients

The results showed that as many as 49 respondents were female. Previous research obtained results that stated that the incidence of hypertension in women and men had a proportion of 4% and 10%. Some causes of hypertension in women are identified as being influenced by sex hormones and chromosomal differences¹¹.

In this study, it is known that hypertensive patients experience severe stress. Stress conditions found in people with hypertension are usually caused by sudden changes in activities that are often carried out by patients, difficulties in adjusting to sick conditions, and the existence of a treatment process that can be a stressor for patients with hypertension¹¹.

According to the results of the analysis, it is known that factors related to stress in people with hypertension are gender (p value = 0.002) and occupation (p value = 0.000). As many as 667% of female respondents who experience severe stress. The results of this study are supported by previous research that there are risk factors that have been studied that may explain sex differences in stress

prevalence. In women, there are differences in sexual hormone levels, differences in dealing with problems between men and women, differences in socialization, differences in frequency and reactions to stress in life where women are known to have more stressors, differences in social roles Where women take care of more household problems and cultural influences, namely patriarchy¹².

Causes and Stress Respons of Hypertension Patients

Factors causing stress in hypertensive patients is various. In this study, it is known through in-depth interviews that the causes of stress experienced are due to workload, difficult economy and problems in personal life. Work environments with heavy workloads cause respondents to experience stress. Similarly, it was found in previous studies that job demands cause stress (p value = 0.001)⁸. Economic problems can be the cause of stress. Poverty is one of the causes of stress in people's lives. Difficult socio-economics puts people in a threatening situation that triggers stress¹³. The presence of various personal problems in the family can contribute to causing stress. Family problems that are not harmonious, uneven distribution of duties and responsibilities, even lack of family income are also problems in the family¹⁴.

People who experience stress will show different responses or reactions. The results of the study illustrate that the response of hypertensive patients to stress experienced in the form of angry, restless and depressed responses, solitude and overflowing by crying. The same thing was stated in a study that the stress experienced responds to psychological so that feelings of tension, feelings of pressure, and sadness appear. If this condition continues without treatment, it will stimulate the child's kidneys to produce the hormone adrenaline. The excitation of the hormone adrenaline makes the heart spurred to increase contractility so that the blood pump becomes faster and stronger. As a result, blood pressure in the vascular will increase¹⁵.

Stress is strongly associated with the incidence of hypertension. Stress is a trigger factor for hypertension. If you experience stress, sympathetic nerve activity will occur so that blood pressure increases intermittently. Stress that occurs continuously without

treatment, can result in high persistent blood pressure. Of course this cannot be left for a long time because it will have a pathological impact on the body¹⁶.

CONCLUSION

The conclusion of this study is that people with hypertension in coastal areas experience severe stress influenced by gender and occupation. Analyze the causes of stress due to work, difficult economics and personal problems. Responses to stress include anger, anxiety and distress, solitude and crying. It is important to examine the stress response experienced by hypertension sufferers to provide more appropriate treatment. There should be specific stress management according to the response shown by hypertension sufferers for further research.

ACKNOWLEDGMENTS

Researchers would like to thank those who have supported and assisted the research from preparation, implementation, to evaluation. Thank you to the Directorate of Poltekkes Kemenkes Kendari for the support of research funds, the Head of the Motui Health Center and his staff for the imposition of research permits, respondents who was involved in the research and other parties who cannot be mentioned one by one.

CONFLICTS OF INTEREST

There is no conflict of interest in this research.

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