

## Relationship between self-regulation with self- acceptance of hypertension patients during the covid- 19 pandemic period in Indonesia



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### ABSTRACT

**Introduction:** Hypertension is a chronic disease that is the main concern especially in the middle of the Covid-19 pandemic, where hypertension is a dangerous comorbid disease for people infected with the Covid-19 virus. Self-regulation is an important thing that hypertension sufferers must have to help control their blood pressure. Patients with hypertension who can regulate themselves will affect their acceptance of chronic diseases suffered. The purpose of this study was to analyze the relationship of self- regulation to self-acceptance of hypertension sufferers during the Covid-19 pandemic in Indonesia.

**Method:** The type of research is correlational with a cross-sectional research design. The sampling technique is probability sampling with a random sample size of 100 patients with hypertension in Indonesia. The research instrument was in the form of Self-Regulation and Self Acceptance Scale-Early Blindness (SAS-EB) questionnaires. Data analysis was performed with the Spearman Rank statistical test with a significant  $p < 0.05$ .

**Results:** The results showed that almost half of respondents had high self- regulation (40%) and half of the respondents had a high level of self-acceptance (47%). Spearman Rank statistical test shows the result of  $p = 0,000$  and the level of strength is very strong 0.795 and its value is positive.

**Conclusion:** There is a very strong relationship between self-regulation and self-acceptance of hypertension sufferers during the co-19 pandemic in Indonesia. It is expected that health workers play a role in providing health education about the treatment of hypertension especially during the co-19 pandemic, as well as increasing social support that can help hypertension sufferers in treating their diseases.

**Keywords:** Self-Regulation, Self-Acceptance, Hipertensi, Covid-19.

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### INTRODUCTION

Hypertension is a dangerous comorbid factor for people infected with the Covid-19 virus. The American Heart Association (AHA) states that people who have a history of hypertension are at twice the risk of increasing redness and death when infected with Covid- 19.<sup>1</sup> Data on the outbreak in Wuhan, China showed 44,672 Covid-19 patients showed a mortality rate of 10.5% among those who had cardiovascular disease.<sup>2</sup> Meanwhile, in Indonesia, the number of positive cases of Covid-19 continues to increase. Based on data on May 5, 2020, announced by the Task Force for the Acceleration of Covid-19 Management in Indonesia, there were 12,071 infected people with 35% accompanied by comorbid factors of hypertension, diabetes, and other cardiovascular diseases.<sup>3</sup> There are 63 million people or 34.1% of the population in Indonesia who suffer from

hypertension, from the 2018 RISKESDAS data. Of the hypertensive population, only 8.8% were diagnosed with hypertension and only 54.4% of those diagnosed with hypertension regularly took medication.<sup>4</sup>

The high prevalence of mortality and morbidity due to hypertension can be reduced by controlling blood pressure, especially during the current Covid-19 pandemic situation.<sup>5</sup> Self-regulation has a very important role in effective blood pressure control in hypertensive patients. Self-regulation is a person's ability to control himself independently related to managing the symptoms and consequences of a disease such as medication, treatment, physical activity, social activity, and lifestyle changes.<sup>6</sup> Patients with hypertension who have good self-regulation can influence their self-acceptance in their attitude and positive outlook towards their chronic disease.<sup>7,8</sup>

Self-acceptance is a person's attitude in accepting all the strengths and weaknesses that he has without feeling disappointed, the goal is to change himself for the better.<sup>9</sup> Fennell stated that in the management of chronic disease self-acceptance is included in the final phase, namely the integrity phase. It is said that self-acceptance is related to basic activities such as eating, drinking, and resting. A person who has good self-acceptance will have good self-regulation within himself so that he will not have obstacles in treatment because of an attitude of seeing himself as he is and treating him well with a sense of pleasure and pride and continuing to strive for progress, especially in maintain good health.<sup>9-11</sup> Given that hypertension is a comorbid factor with the highest mortality risk for patients infected with Covid-19, it is very important for people with hypertension to have good self-regulation so that sufferers can accept themselves with a positive attitude towards themselves, can accept their condition calmly in maintaining their condition. health status in the current Covid-19 pandemic situation.<sup>5,12</sup> This study aims to analyze the relationship of self-regulation to self-acceptance of hypertensive patients during the Covid-19 pandemic in Indonesia.

## METHODS

### Study Design

The research design used is analytic with a cross-sectional approach because there is a relationship between the independent variable and the dependent variable. The independent variable of this study was self-regulation and the dependent variable was self-acceptance which was observed simultaneously at the same time. The place where the research was carried out was in Indonesia. The research was conducted in May.

### Data Collection

The population of this study was all hypertension sufferers in Indonesia. The research sample was 100 respondents who were taken using probability sampling with a random sampling technique. The research instrument used the Self-Regulation questionnaire and Self Acceptance Scale-Early Blindness (SAS-EB) with the measurement scale of the

independent and dependent variables being ordinal.

Test the validity and reliability of the Self-Regulation and Self Acceptance Scale-Early Blindness (SAS-EB) questionnaires using 15 respondents. The results of the validity test of the Self-Regulation questionnaire obtained the results of r count for each question between 0.550-0.842 while the Self Acceptance Scale-Early Blindness (SAS-EB) questionnaire obtained the results of r count for each question 0.549-0.828 greater than r table 0.553 so that it can be stated that the questionnaire Self-Regulation and Self Acceptance Scale-Early Blindness (SAS-EB) are valid to be used as questions. The results of the reliability test of the Self-Regulation questionnaire showed that the Cronbach's Alpha value was 0.759, while the Self-Acceptance Scale-Early Blindness (SAS-EB) questionnaire showed a Cronbach's Alpha value of 0.762, which means reliable or reliable so that the questionnaire is suitable for use in data collection.

### Data Analysis

The data were analyzed using the Spearman Rank Correlation statistical test with a significant  $p < 0.05$ .

## RESULTS

### Respondents Characteristics

Table 1 shows that out of 100 respondents, most of them (56%) are in the late elderly age, most (68%) of respondents are female. Almost half (45%) are highly educated most of which (66%) live in cities and nearly half (37%) work in the private sector. Almost half of the respondents' body mass index (36%) is in the normal weight category. While the duration of hypertension suffered by respondents was almost half (48%) 6-10 years. For regular taking medication and controlling hypertension, almost all respondents regularly took medication (84%) and regularly controlled hypertension (81%). Most of the respondents (80%) had no history of smoking, most of them (80%) did not do it and most (76%) did not have other comorbidities besides hypertension.

Table 2 shows that out of 100 respondents nearly half have high self-regulation and self-acceptance with a

percentage of 40% for self-regulation and 47% for self-acceptance.

### Relationship Analysis

Table 3 shows that of the 21 respondents who had low self-regulation, a small proportion (14%) had low self-acceptance, of the 39 respondents who had moderate self-regulation, almost half (29%) had moderate self-acceptance, while of the 40 respondents of those with high self-regulation nearly half (38%) had high self-acceptance. From the cross-tabulation of the relationship between self-regulation and self-acceptance, an analysis test was performed using the Rank Spearman test, the results obtained were  $p = 0.000$ , which means that there is a relationship between self-regulation and self-acceptance in hypertensive patients during the Covid-19 pandemic in Indonesia.

## DISCUSSION

The results showed that there was a relationship between self-regulation and self-acceptance of hypertensive patients during the Covid-19 pandemic with a value of  $p = 0.000$  and a very strong strength level of 0.795 and a positive value. it can be said that the higher the self-regulation of hypertensive patients, the higher the self-acceptance they have. This is under the statement from Bandura that self-regulation is a person's ability to regulate and carry out behavior as a strategy that affects one's performance in achieving goals or achievements.<sup>13</sup> Self-regulation is also related to the awakening of both thoughts, feelings, and actions that are planned to achieve personal goals that are influenced by self-acceptance in him.<sup>14</sup> This is supported by Passer & Smith that a person who has good self-acceptance will influence his belief in his ability to control or show behavior that is considered a goal, especially in self-control to maintain his health status.<sup>15</sup>

Self-regulation is important for hypertensive patients because self-regulation aims to change lifestyle such as monitoring blood pressure, eating a healthy diet, maintaining body weight, and regularly taking medication that can help patients minimize complications from hypertension, especially during the COVID-pandemic. 19, hypertension is

a dangerous comorbid factor for people infected with the Covid-19 virus.<sup>5,16</sup> This is in line with the results of a study where almost half of the hypertensive patients in Indonesia have high self-regulation, almost half of the patient's body weight is in the normal category, hypertensive patients are also almost entirely regular

in controlling blood pressure and taking medication, in maintaining their health status during this period. the Covid-19 pandemic. The American Heart Association states that people who have a history of hypertension at twice the risk and hypertensive patients who do not take medication to control their condition will increase the severity and mortality when infected with Covid-19.<sup>1</sup>

According to the America College of Cardiology, hypertensive patients are very susceptible to the Covid-19 virus caused by viral infections related to inflammation in the body which can worsen and increase the condition of acute coronary syndrome where this condition occurs due to obstruction of blood flow to the heart which will affect heart function, especially an unhealthy heart that needs to work hard to pump oxygen-rich blood to all body tissues. Besides, chronic diseases including heart disease can decrease the function of the immune system. Hypertensive patients need to be able to self-control through self-regulation to maintain health and reduce the effects and limit disease progression.<sup>1,5,16</sup>

High and low self-regulation and self-acceptance of a person can be influenced by several factors, especially age and education level.<sup>6</sup> This is in line with the results of the study. It can be seen that most of them are in the late elderly with an age range of 56-65 years and almost half of the respondents are highly educated. According to Hurlock, he explained that the more a person gets older, the maturity level and strength of a person will be more mature in the process of thinking and working so that they can achieve the desired goals.<sup>17,18</sup> Apart from age, the level of education also has a big influence on self-regulation and self-acceptance because when someone has higher education, they will have a higher level of awareness and are quick to receive information so that it has an impact on behavior or healthy lifestyle.<sup>6,16</sup> It can be concluded that hypertensive patients with higher education will have good self-acceptance of their strengths and weaknesses and are easy to receive useful information to control their health status independently to be more vigilant, especially in the situation of the Covid-19

**Table 1. Frequency Distribution of Respondent Characteristics.**

Characteristics	f	%
<b>Age (years)</b>		
Late adulthood (36-45)	9	9
Early adolescence (46-55)	25	25
Late adulthood (56-65)	56	56
Seniors > 65	10	10
<b>Sex</b>		
Male	32	32
Female	68	68
<b>Education</b>		
Basic	28	28
Intermediate	27	27
High	45	45
<b>Residence</b>		
City	66	66
Village	34	34
<b>Profession</b>		
Civil servants	8	8
Private	37	37
Entrepreneur	36	36
Does not work	19	19
<b>IMT</b>		
Underweight	11	11
Normal	36	36
Overweight	17	17
Obesity	36	36
<b>Duration of Hypertension(years)</b>		
1-5	12	12
6-10	48	48
>10	40	40
<b>Hypertension Drugs</b>		
Irregular	16	16
Regular	84	84
<b>Hypertension Control</b>		
Irregular	19	19
Regular	81	81
<b>Smoking History</b>		
Not	80	80
Yes	20	20
<b>Sports</b>		
Not	51	51
Rarely	34	34
Often	15	15
<b>Concomitant Diseases</b>		
Not	76	76
Yes	24	24

Source: Primary Data, 2020

**Table 2. Characteristics self-regulation and self-acceptance.**

Characteristics	f	%
<b>Self-Regulation</b>		
Low	21	21
Moderate	39	39
High	40	40
<b>Self-Acceptance</b>		
Low	17	39
Moderate	36	40
High	47	21

Source: Primary Data, 2020

**Table 3. Relationship Self-Regulation with Self-Acceptance.**

Self-Regulation	Self-Acceptance						Total	
	Low		Moderate		High		f	%
	f	%	f	%	f	%		
Low	14	14	5	5	2	2	21	100
Moderate	3	3	29	29	7	7	39	100
High	0	0	2	2	38	38	40	100
Total	17	17	36	36	47	47	100	100
<i>Rank-Spearman Test</i>					<i>P = 0.000</i>			

Source: Primary Data, 2020

virus pandemic.

The results also showed that almost half of the hypertension patients in Indonesia had high self-regulation and had high self-acceptance to themselves. This is under Ghufron and Risnawati's opinion which states that someone with high self-acceptance believes that they can live a healthy lifestyle and try harder to overcome problems so that it will strengthen in self-regulation which includes setting goals, regulating emotions, self-instruction, self-monitoring, self-evaluation to self-defined contingencies to maintain their health status.<sup>13,19</sup> This is very good for hypertensive patients during the Covid-19 pandemic by accepting one's shortcomings and strengths will change themselves for the better so that it affects the belief of hypertensive patients to make changes or behavior adjustments in achieving hypertension treatment goals in controlling blood pressure independently so that stay healthy and avoid the Covid-19 virus attack.

## CONCLUSION

The results of this study indicate a relationship between self-regulation and self-acceptance in hypertensive patients in

Indonesia during the Covid-19 pandemic. Where nearly half of patients with hypertension have high self-regulation and self-acceptance which is supported by the characteristics of respondents where most of them are highly educated, most of whom live in cities, almost all respondents regularly take medication and control hypertension so that they have high self-regulation at hypertension sufferers. The higher the self-regulation of hypertension sufferers, the better they will control their blood pressure. The high level of self-regulation that a person has is also greatly influenced by self-acceptance in him. Where someone who has good self-acceptance will affect his belief in his ability to maintain his health status. Further research with a different study design and a larger sample to determine other factors that affect the relationship between self-regulation with self-acceptance of hypertension patients during the Covid-19 pandemic period in Indonesia.

## AUTHOR CONTRIBUTION

All authors contributed to this study's conception and design, data analysis and interpretation, article drafting, critical

revision of the article, final approval of the article, and data collection.

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## CONFLICT OF INTEREST

There is no conflict of interest for this manuscript.

## ETHICAL CONSIDERATION

This study has been declared ethical by the Ethical Commission for Health Research of Universitas Airlangga.

## REFERENCES

1. A. H. Association. What people with high blood pressure need to know about COVID-19 [Internet]. American Heart Association Guidance. 2020. Available from: [https://newsroom.heart.org/news/what-people-with-high-blood-pressure-need-to-know-about-covid-19#\\_edn1](https://newsroom.heart.org/news/what-people-with-high-blood-pressure-need-to-know-about-covid-19#_edn1)
2. Sisniegues CEL, Espeche WG, Salazar MR. Arterial hypertension and the risk of severity and mortality of COVID-19. *Eur Respir J*. 2020;55(6):6-9. Available from: <http://dx.doi.org/10.1183/00000000.00000000>
3. Kementerian Kesehatan Republik Indonesia. Info Terkini Covid-19. Jakarta; 2020.
4. Kementerian Kesehatan Republik Indonesia. Hasil Utama RISKESDAS 2018. Jakarta; 2018.
5. Kulkarni S, Jenner BL, Wilkinson I. COVID-19 and hypertension. *JRAAS - J Renin-Angiotensin-Aldosterone Syst*. 2020;21(2).
6. Baghianimoghadam M, Aivazi S, Mzloomly S, Baghianimoghadam B. Factors in relation with self-regulation of Hypertension, based on the Model of Goal Directed behavior in Yazd city. *J Med Life*. 2011;4:30-5.
7. Bosworth HB, Powers BJ, Oddone EZ. Patient Self-Management Support: Novel Strategies in Hypertension and Heart Disease. *Cardiol Clin*. 2010;28(4):655-63.
8. Green EE, Green AM, Norris PA. Self-regulation training for control of hypertension. *Primary Cardiol*. 1980;6(3):126-37.
9. Bernard ME [Ed]. The strength of. (2013). 2013. 7-8 p.
10. Fennell P. Managing chronic illness using the four-phase treatment approach: A mental health professional's guide to helping chronically ill people. US: John Wiley & Sons Inc; 2003.
11. Masyithah D. Hubungan Dukungan Sosial Dan Penerimaan Diri Pada Penderita Pasca Stroke. UTN Sunan Ampel Surabaya; 2012.
12. Dewanti TI, Ibrahim Y. Relationship of Self Concept With Self-Acceptance of Drug User Prisoners. *J Neo Konseling*. 2019;1(1):1-5.

13. Bandura A. Social foundations of thought and action: A social cognitive theory. US: Prentice-Hall, Inc; 1986.
14. Zimmerman BJ. A Social Cognitive View of Self-Regulated Academic Learning. *J Educ Psychol.* 1989;81(3):329–39.
15. Passer M, Smith R. *Psychology: The science of mind and behavior.* McGraw-Hill, editor. 2004.
16. Sheppard JP, Tucker KL, Davison WJ, Stevens R, Aekplakorn W, Bosworth HB, et al. Self-monitoring of Blood Pressure in Patients with Hypertension-Related Multimorbidity: Systematic Review and Individual Patient Data Meta-analysis. *Am J Hypertens.* 2020;33(3):243–51.
17. Syam S. Hubungan Pola Asuh Orang Terhadap Kejadian Temper Tantrum Anak Usia Toddler Di Paud Dewi Kunti Surabaya. *J Promkes.* 2013;1(2):164–16.
18. Elizabeth H. *Psikologi Perkembangan: Suatu Pendekatan Sepanjang Rentang Kehidupan.* 5th ed. Jakarta: Erlangga; 1998.
19. Ghufroon M, Risnawat S. *Teori-teori psikologi.* Yogyakarta: Ar-Ruzz Media; 2016.



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