

# ISRG Journal of Arts, Humanities and Social Sciences (ISRGJAHSS)



**ISRG PUBLISHERS**

Abbreviated Key Title: ISRG J Arts Humanit Soc Sci

**ISSN: 2583-7672 (Online)**

Journal homepage: <https://isrgpublishers.com/isrgjahss>

Volume – IV Issue - III (May-June) 2026

Frequency: Bimonthly



## THE ROLE OF HEALTH LITERACY IN MODERATING THE INFLUENCE OF HEALTH SERVICES ON DECISION MAKING TO USE BPJS

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| **Received:** 25.04.2026 | **Accepted:** 02.05.2026 | **Published:** 23.05.2026

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### Abstract

*This study aims to examine the effect of health services on decision making on the use of BPJS at the XYZ Hospital, Malang, Indonesia. In addition, this study also aims to examine health literacy as a moderating variable in the influence of health services on the decision to use BPJS. The population in this study were patients who were treated, inpatient and outpatient at XYZ Hospital. The sampling technique used was purposive sampling and 115 samples were obtained. The data analysis used in this study is multiple linear regression. The results showed that the reliability and ethical dimensions of health services had a significant effect on the decision to use BPJS. The results of this study also show that health literacy is able to moderate the influence of health services on the decision to use BPJS. However, the moderating effect is not on all dimensions, but only on the dimensions of reliability, competence, accessibility and credibility.*

**Keywords:** Health Services, Health Literacy, BPJS, Credibility

### 1. Introduction

According to the Ministry of Health's website, the State of Indonesia is currently facing three main burdens of disease problems in society, namely: the presence of new infectious and communicable diseases such as COVID 19, infectious diseases that cannot yet be managed properly, and non-communicable diseases (NCDs). ) which tends to experience an increase in the number of patients every year and this of course gets special attention for health institutions in dealing with this health problem intensively. Several health programs have been prepared by the government in an effort to improve public health through health promotion, increasing health facilities, increasing community vitality, carrying out immunizations, providing medical assistance to the community

through health financing and creating a healthy and clean environment. Furthermore, regarding the government's program in providing medical assistance to the community through health financing, a legal entity called BPJS was formed which is tasked with providing assistance and social security and ensuring that every Indonesian citizen has access to the health services they need.

The Social Security Administering Body (BPJS) for Health is a State-Owned Enterprise that has a special task given by the government in an effort to provide health care insurance for all Indonesian people. BPJS Health as the only social health insurance which is the backbone of the State and society in helping finance

health, in reality often experiences various problems in terms of access to health services, treatment, service quality, premium payments and tiered administration processes. On the other hand, as a legal entity that guarantees access to public health services, BPJS is faced with deficit problems because patient financing continues to increase and takes up a lot of state money. Despite experiencing various financial and health service problems, BPJS health is still the main priority for Indonesian people to get treatment and choose to access health services at clinics, doctor's practices, health centres and hospitals.

An individual's ability to understand and carry out every medical instruction and treatment procedure is referred to as health literacy. According to the World Health Organization (WHO), every individual must have the right sensitivity, cognitive and motivation to gain access to health. This is needed to encourage every individual to understand and use information about ways that can be used to increase access to health services, maintain health, access health and obtain health information effectively. Poor health literacy has an impact on the choice of health insurance, which according to Enderwati (2018) in her research report explains that the factors that drive public perception are that they have not registered as BPJS health participants due to economic problems, social incentives, service discrimination, service problems and complicated requirements. . Similar findings were also conveyed by Ambarwati (2020) who explained that people have not become BPJS Health participants due to economic problems and do not trust the services offered by BPJS Health.

However, several previous research reports actually revealed several positive reasons from the public and their reasons for choosing to use BPJS health insurance services, for example: Muchsan & Mareta (2019) revealed that patients participating in social health insurance who understand the flow of the BPJS work system choose to use the service. This health insurance is due to satisfaction with the services provided. Similar findings were also presented by Abidin et al. (2022) the quality of mobile services in national health insurance, which is BPJS's flagship program, has a positive and significant influence on the decision to choose to use the service. Suhaina et al. (2021) explained in their research report about public perceptions in the implementation of public policy for the health insurance program by BPJS Kesehatan Mandiri which was quite well received by the public.

Differences in ability to digest information and services provided by BPJS among the public need to be looked at further, because according to Meyer (2016) the health costs that each patient must bear when seeking treatment are very expensive and continue to increase, as a result, smart action is needed from each patient. Patients in making decisions to get the best health care and choosing to use health insurance is the best choice that can be made by poor people, low income people and those who have a history of chronic and chronic diseases (Ismaya & Emelia, 2022; Bell, et al. 2020; Sriram & Khan , 2020). Based on the results of previous research, this research aims to measure the community's ability to use health information and the health services provided by hospitals which can influence their decision making in using health insurance services. To maintain company confidentiality, this research uses the name of XYZ Hospital instead of the actual hospital name.

## 2. Hypothesis Development

Getting the best health care service is the right of every individual and patient, where this is guaranteed in the provisions of the 1945 Constitution because health is one of the basic needs for every human being. According to the Ministry of Health of the Republic of Indonesia in 2009, health services are efforts carried out by a person or together in an organization which aims to maintain and improve health, prevent and cure disease and restore the health of individuals, groups, families or the general public.

According to Herlambang (2016), the way to measure the quality of health services in public facilities such as clinics, hospitals and health centres is as follows: reliability, responsiveness, competence, accessibility, ethics, communication, credibility and security. Meyer (2016) in his research revealed the importance of understanding financial and health literacy in making health care decisions by each patient, this is due to the existing reality regarding the large costs and health service facilities in hospitals that must be borne by each patient. According to Schrauben and Wiebe (2017), health literacy is a person's ability to collect, study, weigh and utilize any information from health services so that they are able to make the right health decisions for themselves. Pleasant, et al (2011) explain that health literacy involves an individual's ability to listen, write, read, speak, count as well as cultural and conceptual knowledge. Where this ability will encourage individuals in health promotion, health prevention, and health services to maintain or improve a person's quality of life (Duplaga 2020).

Sorensen et al., (2013) divide health literacy into several determinants, namely: determinants originating from individual personal (age, gender, education, general competence, race, psychological condition, socio-demographic status, socio-economic status, employment and income), community and environmental determinants (demographic conditions, culture, language, and community systems) and social determinants (family and relationship support, healthy living behaviour, and health status). According to Sorensen et al (2013) the core of the health literacy concept model is related to the process of assessing, accessing, understanding and applying health-related information. Green, et al (2008) in their health experiments revealed that patients with a low level of financial literacy also had a low level of understanding of health care insurance (HDHP), on the other hand, patients tended to choose to use the range of health services provided by health insurance when compared with other health services in the hospital.

The definition of decision making according to Baron and Byrne (2008) is a process through which individuals or groups combine and integrate existing information with the aim of choosing one of various possible health actions. Meyer (2016) explains that health decision-making behaviour carried out by health patients includes selecting, purchasing, and using health products and services to meet their health needs. Meyer (2016) further explains that health decision making is not only in terms of managing health care costs, but also in areas such as evaluating and purchasing health insurance, determining when and where to seek treatment, choosing a doctor, maintaining health, and proactively managing chronic diseases. These actions are intended to promote better patient health outcomes, reduce treatment costs, and provide more information and alternative treatment options.

Based on the theory above, the hypothesis of this research is:

H1: There is a significant influence of health services on the decision to use BPJS

H2: Health literacy moderates the influence of health services on the decision to use BPJS

### 3. Methodology

This research is a research and field survey model with a quantitative approach technique to examine the influence of health services on decisions to use BPJS services at the XYZ Hospital. This research uses the moderating variable health literacy. The data and information that has been collected will then be analysed to find out existing phenomena and facts that influence decision making using BPJS Health services by BPJS patients at the XYZ Hospital in Malang. The aim of this research method is to identify concepts and sub-concepts through statistical analysis of data sources obtained by testing hypotheses through quantitative and descriptive approaches to research analysis.

The population in this study were patients seeking treatment, inpatient and outpatient at XYZ Hospital Malang. The sampling technique used was purposive sampling. To obtain good sampling, it is necessary to determine criteria that can be used as the basis for selecting the sample that will be used in this research, namely: Outpatients and inpatients who are registered and use BPJS Health services. To obtain data in this research using a survey method using questionnaire techniques. The results of the survey showed that 172 respondent data had been entered. Of the number who provided answers to the online questionnaire distributed to patients, there were 115 valid respondent data. Furthermore, the 115 valid respondent data was used to become the sample for this research.

This research has 3 (three) variables consisting of independent variables, dependent variables and moderating variables. The independent variable in this research is health services. Health services relate to the quality of service which is shown in the level of perfection of health services in meeting every need and demand of every patient (Azwar, 1996). Herlambang (2016) explains several indicators that can be used to determine the quality of health services in public facilities, namely: reliability, responsiveness, competence, accessibility, ethics, communication, credibility and security.

The dependent variable in this research is the decision to use BPJS. Decisions in this research are defined as decision making that occurs because of a reaction to a problem that arises. In this case, the decision arises because there is a difference between the real condition and the expected condition, so that other actions or solutions are needed as an alternative to the existing situation. Anderson (1995) divides 3 main measures that can be measured in health decision making, namely: predisposing factors, supporting factors, and needs factors. Furthermore, the moderator variable in this research is health literacy. The definition of health literacy is the ability possessed by each individual to access information in the form of text visually, audio visually and in dimensions on computers related to cognitive, affective and intuitive (Iriantara, 2009). Nurjanah (2015) stated that the indicator that can be used to determine a person's health literacy ability is through the HLS-EUQ16 health literacy measurement instrument with the following conditions: health care, disease prevention, and health promotion.

This research uses multiple linear regression analysis to determine the direction of the relationship between health service variables

and health literacy and the decision to use BPJS, as well as to find out whether each variable is positively or negatively related and to predict the value of the decision variable to use BPJS if the service value and health literacy experiencing an increase or decrease. To test the hypothesis, this research uses a simultaneous test (F test) and partial test (T test).

### 4. Results

The composition of respondents based on gender was 72 respondents or 62.61% female and the remaining 43 people or 37.39% male. From the data obtained from 115 patient respondents, the composition of respondents based on age was 9 patients or around 7.83% were respondents aged 15-25 years, then 19 patients or 16.52% were aged in the range of 26-35 years. Next, 31 people or 26.96% were patients aged 36-45 years, then 46 people or 40% were patients aged 46-60 years and finally there were patients aged above 61 years with a total of 10 people or 8.70%. These results show that the majority of respondents are patients who are adults (46 years to 60 years) and are vulnerable to contracting disease due to decreasing productivity and immunity as well as various other things that may be the cause of disease in patients.

The types of illnesses that most respondents suffer from are as follows: patients with a history of chronic illnesses totalling 23 people or 20%, next are patients with a history of acute illnesses totalling 27 people or 23.48%. Then there were 17 patients with a history of illness caused by a particular virus attack or 14.78% and finally there were patients with a history of other illnesses totalling 48 people or 41.74%. These results show that the majority of respondents are patients who come for treatment who have a history of various diseases and in accordance with the health complaints experienced by the patient.

Classification of respondents based on the number of years they have been registered with BPJS health insurance, namely: 16 patients or around 13.91% have been BPJS members for less than 5 years, then 51 patients or 44.35% are those who have been BPJS members in range 6-10 years, then 38 people or 33.04% were patients who had been BPJS members for 11-20 years and finally 10 people or 8.7% were patients registered with BPJS for more than 21 years. These results show that the majority of respondents are patients who have been members of BPJS Health for 6-10 years and of course they have gained sufficient experience on how to use BPJS services both in terms of administrative management, health services from XYZ Hospital and the treatment they receive.

Based on the choice of premium and class of disease used by respondents, for the choice of premium and class 1 BPJS amounted to 28 people or 24.35%, next was the choice of premium and class 2 BPJS which amounted to 54 people or 46.96% and lastly was the choice of premium and class 3 BPJS, totalling 33 people or 28.70%. These results show that the majority of respondents are patients who choose to use BPJS class 2 services and expect to receive health services at each health facility according to the premium they choose.

Data analysis in this study is to test the influence of the health service variable (X) on the decision variable to use BPJS services (Y), apart from that, further analysis will be carried out to test the effect of the independent variable, health service (X) with the moderating variable, health literacy (M) on the dependent variable, decision to use BPJS (Y). The research uses the dimensions of health services as variables. The data analysis calculations in this

research will be carried out using 2 equations. The first model is to look for the influence of independent health service variables consisting of reliability (X1), responsiveness (X2), competence (X3), accessibility (X4), ethics (X5), communication (X6), credibility (X7) and security (X8 ) on the dependent variable, namely BPJS health decision making. The multiple linear regression test for regression equation 1 from this study is as follows:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \varepsilon$$

Data analysis in the second equation is to look for the influence of the independent variable (health services) on the dependent variable, namely (health decision making) which is moderated by

the intervening variable (health literacy). The regression test formula is as follows:

$$Y = a_1 + b_1X_1 + b_2M \quad (1)$$

$$Y = a_1 + b_1X_1 + b_2M + B_3X_1 * M \quad (2)$$

The results of the multiple linear regression test for regression equation 1 are as follows:

$$Y = 19.446 + 1.665X_1 - 1.559X_2 + 0.941X_3 - 0.333X_4 - 1.620X_5 + 1.293X_6 + 1.544 X_7 + 0.478X_8$$

Next, to find out the effect of each independent variable on the dependent variable in the regression model in this research, it can be seen in table 1 below.

Table 1

Coefficients <sup>a</sup>								
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	19.446	6.451		3.014	.005		
	Reliability.X1	1.655	.744	.689	2.225	.034	.166	6.040
	Responsiveness.X2	-1.559	1.021	-.551	-1.527	.137	.122	8.219
	Competence.X3	.941	.740	.351	1.271	.213	.208	4.802
	Accessibility.X4	-.333	.723	-.144	-.461	.648	.163	6.135
	Ethics.X5	-1.620	.769	-.664	-2.105	.043	.159	6.271
	Communication.X6	1.293	1.136	.390	1.139	.264	.135	7.403
	Credibility.X7	1.544	1.039	.504	1.487	.147	.138	7.240
	Security.X8	.478	1.173	.143	.408	.686	.128	7.808

a. Dependent Variable: BPJS health decision making .Y1

The partial test results in table 1 show that of the 8 dimensions of health services, only reliability and ethics have a significant influence on the decision to use BPJS. These two dimensions have a t-statistical value that is greater than the t-table and have a sig value smaller than 0.05. The other six dimensions (responsiveness, competence, accessibility, communication, credibility, and security) do not have a significant influence on the decision to use BPJS. The regression coefficient value for the reliability dimension (X1) was obtained at 1,665 with a positive sign, where this result shows that if reliability increases by one unit assuming the other independent variables' values do not change, then the decision making variable for using BPJS will increase by 1,665. The regression coefficient value for the ethical dimension (X5) was obtained at -1,620 with a negative sign, where this result shows

that if ethics decreases by one unit assuming the other independent variables' values do not change, then the decision variable for using BPJS will increase by 1,620.

The results of the moderation test for the model 2 regression equation show that health literacy is able to moderate four dimensions of health services (reliability, competence, accessibility and credibility), while the other four dimensions (responsiveness, ethics, communication and security) are not moderated by health literacy. The following are the results of health literacy moderation on the dimensions of reliability, competence, accessibility and credibility.

Table 2

Test of moderation of reliability dimensions

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	130.487	43.646		2.990	.003
	Reliability.X1	-6.157	2.566	-3.069	-2.400	.018
	Health Literacy.M1	-1.220	.599	-1.312	-2.037	.044
	X1M	.089	.035	3.949	2.549	.012

Based on the results shown in table 2 regarding the moderation regression test, a significance value of 0.012 <0.05 was found. Where the beta value was found to be positive at 0.089. From the results of the regression test, it can be concluded that health literacy is a pure moderator for the relationship between the influences of reliability variable on health decision making. The

interaction effect (reliability \* health literacy) is 0.089, which means that health literacy strengthens the relationship between reliability and health decision making by 0.089.

Table 3

Moderation test of competency dimensions

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	155.208	51.080		3.039	0.003
	Competence.X3	-7.432	2.944		-2.525	0.013
	Health Literacy.M1	-1.538	0.706		-2.179	0.031
	X3M	0.105	0.040		2.610	0.010

Based on the results shown in table 3 regarding the moderation regression test, a significance value of 0.010 <0.05 was found. Where the beta value was found to be positive at 0.105. From the results of the regression test, it can be concluded that health literacy is a pure moderator for the relationship between the influences of competency variables on health decision making. The

interaction effect (competence\*health literacy) is 0.105, which means that health literacy strengthens the relationship between competence and health decision making by 0.105.

Table 4

Moderation test of accessibility dimensions

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	140.688	45.125		3.118	0.002
	Accessibility.X4	-6.598	2.649		-2.490	0.014
	Health Literacy.M1	-1.405	0.619		-2.272	0.025
	X4M	0.098	0.036		2.713	0.008

Based on the results shown in table 4 regarding the moderation regression test, a significant significance value of 0.008 <0.05 was found. Where the beta value was found to be positive at 0.098. From the results of the regression test, it can be concluded that health literacy is a pure moderator for the relationship between the influences of the accessibility variable on health decision making.

The interaction effect (accessibility\*health literacy) is 0.098, which means that health literacy strengthens the relationship between accessibility and health decision making by 0.098.

Table 5

Moderation test of credibility dimensions

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	118.022	40.632		2.905	0.004
	Credibility.X7	-7.023	3.193		-2.199	0.030
	Health Literacy.M1	-1.101	0.559		-1.971	0.051
	X7M	0.107	0.044		2.448	0.016

Based on the results shown in table 5 regarding the moderation regression test, a significance value of 0.016 <0.05 was found. Where the beta value was found to be positive at 0.107. From the results of the regression test, it can be concluded that health literacy is a pure moderator for the relationship between the influences of the credibility variable on health decision making.

means that health literacy strengthens the relationship between credibility and health decision making by 0.107.

The test results obtained from the coefficient of determination test in this study are as follows:

Table 6

Determination Test Results

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.713 <sup>a</sup>	.608	.481	4.38597	2.308

a. Predictors: (Constant), Security.X8, Reliability.X1, Communication.X6, Competence.X3, Ethics.X5, Accessibility.X4, Credibility.X7, Responsiveness.X2

b. Dependent Variable: BPJS health decision making.Y1

The results obtained in table 6 regarding the coefficient of determination test results in this research were found to be a value (R square) of 0.608 or equal to 60.8%. Where this figure means that the health service variables consisting of reliability, responsiveness, competence, accessibility, ethics, communication, credibility and security together with regard to health decision making chosen by BPJS patients are 60.8%. Meanwhile, the remaining value ( $100\% - 60.8\% = 39.2\%$ ) is influenced by other variables outside the regression model in this study.

## 5. Discussions

This discussion is limited to direct influences and accepted moderating influences only.

### a. Health services in the reliability dimension influence the decision to use BPJS

The results of this research indicate that the reliability dimension influences the decision to use BPJS. These results show that the health service variable related to the reliability variable, which is the consistent performance of providing the best health services shown by XYZ Hospital, is very convincing and trusted by patients so that it has a significant influence on patient decision making to utilize BPJS health insurance.

Martelli, et al (2018) in research explains the importance of health care that is based on consistent performance through a series of integrated delivery system (IDS) health services, consultation and family centered care methods which will greatly influence decision making and selection of treatment processes by the patient / family. Furthermore, Babyar (2019) explained the importance of redesigning health care strategies by utilizing high reliability in care and standardizing health facility criteria to obtain patient satisfaction with health services. Where the findings obtained in this research are the importance of showing good and polite attitudes that have been carried out by hospital employees, which is reliability which must continue to be maintained and improved by the management of the XYZ Hospital, because this is very much liked by patient users BPJS Health. Apart from that, another positive thing that XYZ Hospital employees need to maintain is the importance of providing the best service to patients because this provides a positive, commendable response and is highly appreciated by BPJS patients who seek treatment at XYZ Hospital.

### b. Health services in the ethical dimension influence the decision to use BPJS

The results of this study indicate that the ethical dimension of health services has a negative influence on the decision to use BPJS. These results show that even though employees have provided health services regarding their responsiveness, readiness and speed to patients, this does not have a positive and significant impact in encouraging patients' decision making to utilize BPJS health insurance.

Although the expected results in this study are not in accordance with previous initial expectations, a possible explanation related to these results is that policy makers at XYZ Hospital and doctors must consider how to narrow the gap between patient expectations and experiences while receiving hospital care (Coulter & Jenkinson, 2005). Because when patients are sick and seek treatment at the hospital, they expect the best service and a quick recovery, but on the other hand, the medical process at the hospital has health procedures that every patient needs to go through, such as: consultation, diagnosis, administration, medical procedures, observation, etc. So the patient's desire to recover more quickly

cannot be achieved. Coulter and Jenkinson further explained that patients do not have a choice of doctors for their health care and sufficient information to make health choices. In this study, BPJS patients felt that the service they received was still not fast enough and this may be caused by the gap between the hopes and desires of patients who want to get well as soon as possible but are conflicted with the health service requirements at XYZ Hospital. An important value that needs to be considered by XYZ Hospital managers and doctors is the importance of increasing the responsiveness of the health system related to health suggestions and complaints regarding illnesses suffered by patients. In addition, health insurance service providers need to promote access to the health services they receive in hospitals.

### c. Health literacy moderates the influence of health service reliability dimensions on decisions to use BPJS

The research results show that health literacy is a pure moderator and can strengthen the relationship of health service variables (reliability) to health decision making. These results indicate that health literacy is a moderator variable and can directly strengthen the relationship between health service variables and the reliability dimension of health decision making in utilizing BPJS health insurance.

Samerski (2019) in a research report explains health literacy as the knowledge possessed by the community and comes from their experience of the health services and health care they encounter and experience which is situational and multidimensional. Furthermore, Dumenci, et al. (2014) explained that the self-confidence that patients have in information about the disease they suffer from is the main determinant in making health decisions. In this case, the experience and health information felt by patients regarding the consistency of health services provided by XYZ Hospital management can strengthen and encourage BPJS patients to choose treatment at XYZ Hospital Malang city. XYZ Hospital management must be more intense and consistent in maintaining its performance because this will indirectly provide experience-based input to BPJS patients that XYZ Hospital employees are the best and friendliest people so that it will encourage more and more BPJS patients to seek treatment at XYZ Hospital and of course will increase the amount of XYZ Hospital income.

### d. Health literacy moderates the influence of health service competency dimensions on the decision to use BPJS

The research results show that health literacy is a pure moderator and can strengthen the relationship of health service variables (competence) to health decision making. These results indicate that health literacy is a moderator variable and can directly strengthen the relationship between health service variables and competency dimensions on health decision making in utilizing BPJS health insurance.

Smith, et al. (2013) explained health literacy as a skills-based construct for health self-management and the motivation of each individual to seek and manage health information. Furthermore, Gunn, et al. (2020) explained that patients' limited health literacy will lead to gaps in treatment, health services and medical decision making. On the other hand, Charoghchian, et al. (2020) explained the importance of health literacy among health workers by increasing their health abilities and competencies in an effort to support patient self-management and improve health services. In the context of this research, health information obtained by patients

related to the services and competence of XYZ Hospital employees and management is very relevant, so that this can strengthen and encourage BPJS patients to choose and come for treatment at XYZ Hospital Malang city. XYZ Hospital management must encourage and continue to strive to improve the abilities and competencies of the health workers they have, this aims to demonstrate the professionalism of each employee in its efforts to become a hospital with excellent service based on ethics, professional discipline imbued with Islamic values by prioritizing patient safety.

**e. Health literacy moderates the influence of the health service accessibility dimension on the decision to use BPJS**

The research results show that health literacy is a pure moderator and can strengthen the relationship of health service variables (accessibility) to health decision making. These results indicate that health literacy is a moderator variable and can directly strengthen the relationship between health service variables and the accessibility dimension on health decision making in utilizing BPJS health insurance.

In their research report Parnel, et al. (2019) explained that the concept of health literacy is needed by every patient in understanding health information and making health decisions. Furthermore, Seo, et al (2016) in their research explained that health literacy influences the decision-making preferences of medically underserved patients. In the context of this research, health information from doctors, medical personnel and XYZ Hospital employees who always make it easy for patients to contact employees and the speed of XYZ Hospital management in serving patients can strengthen and encourage BPJS patients to choose to seek treatment at XYZ Hospital. Speed and ease of information is an important preference felt by BPJS patients for the services provided by XYZ Hospital management and this of course needs to be maintained and improved so that the number of patients increases so as to increase the amount of income of XYZ Hospital at Malang City.

**f. Health literacy moderates the influence of health service safety and reliability on the decision to use BPJS**

The research results show that hypothesis H15 regarding health literacy is a pure moderator and can strengthen the relationship of the health service variable (credibility) to health decision making. These results indicate that health literacy is a moderator variable and can directly strengthen the relationship between health service variables related to credibility dimensions on health decision making in utilizing BPJS health insurance.

Anderson, et al. (2019) revealed that medical professionals use certain strategies to assist patients in health understanding and decision making, such as highlighting the patient's treatment progress, understanding the patient's wishes and adjusting the delivery of health information to the patient. Furthermore, Anderson et al., revealed that doctors are given greater responsibility in discussing the prognosis and conveying information honestly and clearly to patients, while nurses are tasked with providing individualized care to patients. To achieve good joint health decision making between medical personnel and patients, elements of patient readiness are needed which consist of understanding and attitudes, health literacy, communication skills, self-awareness, and skills in choosing the type of health service (Keij, et al, 2021). In the context of this research, patient readiness in conveying health information provided by medical personnel,

especially doctors, can strengthen BPJS patients' confidence in continuing to seek treatment at XYZ Hospital. This shows that the right strategy has been carried out by XYZ Hospital management in helping patients with their health decisions. The integrity and work responsibility that have been demonstrated by doctors and employees must continue to be maintained because people who have high integrity will be more likely to behave honestly and always optimally in providing health services.

## 6. Conclusion

The general conclusion that can be drawn from the research results is that the dimensions of the health service factors at XYZ Hospital at Malang City have a positive and significant influence on the health decision making of BPJS patients and this is found in the reliability dimension and for dimensions that have a negative and significant influence are found in ethical dimension. Apart from that, several other dimensions of the XYZ Hospital at Malang City health service factor were found to have a positive but not significant influence on the dimensions: competence, communication, credibility and security. Meanwhile, the health service variable for the responsiveness dimension was found to have a negative and insignificant effect.

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