The Correlation between Patients' Ability and Willingness to Pay for Inpatient Class Selection in a Public Hospital in Madiun

AN Malasari[1], Nyoman Anita Damayanti[1*]

[1] Department of Health Policy and Administration, Faculty of Public Health UniversitasAirlangga, Indonesia

***Corresponding Author: Nyoman Anita Damayanti**
Department of Health Policy and Administration, Faculty of Public Health UniversitasAirlangga, Surabaya60115, East Java, Indonesia
Email: nyoman.ad@fkm.unair.ac.id

Abstract: A person whose life highly depends on his health will certainly have a higher demand for health status. Based on the medical records from one of the PublicHospitals in Madiun, it is identified that the score of class II inpatient Bed Occupancy Rate (BOR) in 2016 exceeded the standard score of 85.53%.On the contrary, the score of class I inpatient BOR in 2016 was far below the standard of 27.74%. This study is to examine the correlationbetween patients'ability and willingness to pay in the selection of inpatient class at a Public Hospital in Madiun. The study is an analyticobservational study with a cross-sectional study design conducted on 100 patients as respondents. From the results of the chi-square correlation test, there was a significant correlation between the respondents' Ability to Pay and the selection of inpatientclass in PublicHospitalin Madiun (p-valueis less than0.05).With the variables of work, income, and expendituresub-variables are significantly related to the selection of inpatient classes at patients from one of the Public Hospitals in Madiun.From the users'aspect, in this case, the subject that determined the value of the applied tariff, the current tariff is far below the Ability to Pay (ATP) and Willingness to Pay (WTP).Thus, there is flexibility in the calculation for the submission of new tariff values.

Keywords*: Ability to Pay, Selection of inpatient classes, Willingness to Pay*

1. Introduction

Health is an asset (for humans to be able) to work and live to have children, which arises from the needs of human life. A person whose life needs are highlydependent on their health would undoubtedly have a higher demand for their health status. The economic approach emphasizes that health is an asset for working. Healthcare is an input in generating healthy days based on the concept of production used for production processes that produce health. The demand for health services depends on the demand for health itself[1].

The allocation of healthcare costs amounted to only 2.5% of the total government budget. In contrast, the budget allocation specified in the Health Act requires a minimum allocationin the StateBudget by 5%.According to the budget recommended by WHO, at least 5% of the total Gross National Product by the government has not been capable of accommodating the needs for public health services that require affordability of access and quality of health services[2].

The lack of health funds is further enhanced by the fact that the cost of healthcare and medical care is increasingly expensive with the development and technological development[3]. The production and cost of healthcare in the hospitals continue to increase annually, partly

due to the increaseindrugprices, the use of increasingly sophisticated devices/technologies, and public needsfor health services. Consequently, various issues related to the PublicHospital rates emerge—wherein the existing rates do not allow PublicHospitals to develop. In contrast, the need to establish health facilities becomes higher because of the competition among hospitals is greater[4].

Madiun PublicHospital is a hospitalowned by the Government of East Java Province,which is expected to provide health services for all levels of society and is the regional referral hospital for cities and regencies in the region of Madiun Residency. With operational funding sources coming from hospital revenues and subsidies from the Government of East Java Province, this PublicHospital strives to provide excellent services despite having limitations in determining rates.

Based on medical record data of this hospital, it is identified that the scoreof Bed Occupancy Rate (BOR) for class II inpatient in 2016 exceeded the standard scorethat was equal to 85.53%, although in 2017 began to decline slowly. However, the scoreof BOR class I inpatient in 2016 was far below the standard that was equal to 27.74%.In 2017, it began to crawl up. The rates and facilities of the inpatient rooms,basedon the Regulation of the East Java Governor Number 9 of 2010 concerning the Regional Public Service Agency (BLUD) of healthcare rates in one of Public Hospitals in Madiun, are as follows:

a. Class I, the basic rate of IDR152,500 with facilities of one room,twobeds, a fan/AC,and a bathroom.
b. Class II, the basic rate of IDR133,500 with facilities of one room,four beds, a fan,and a bathroom.

There is no significant difference in the cost of hospitalization rates. Besides, the patients'income/revenue in Public Hospitalin Madiun,based on the 2017 Madiun minimum wage isIDR1,509,005, which can affect the patients' ability and willingness to pay for accessing inpatient services in this PublicHospital.

According to the research from Hutapea[5] concerning factors affecting community demand against inpatient class selection, the factors that significantly influenced the selection criteria includedability (income), availability (completeness of facilities), and willingness (cost incurred to pay for treatment). Therefore, based on the dataabove, it is necessary to analyze factors associated with the ability and willingness to pay for patients in selecting the inpatient classes in one of Public Hospitals in Madiun.

2. Materials and Methods

This research employed an analytic observational study with a cross-sectional studydesign. The data collection was held in November 2018. The population in this study were patients/patients' guardians of inpatientroomsclasses I and II in one of Public Hospitals in Madiun.

The sampling was conducted by employingprobability sampling, which wasa simple random samplingtechnique with any member or unit of the population,which has an equal chance to be selected as the sample[6]. The samples were patients or patients' families of class I and II inpatientsof 100 respondents. The respondents were interviewed with a questionnaire tool that has been tested for validity and reliability. The questionnaire contains some questions about three (3) components, namely:

a. The characteristics of respondents consisting of age, sex, education level;
b. Ability to pay which is composed of employment, income, expenses, the number of families covered and the use of health insurance;
c. Willingness to pay consists of hospitalization/inpatient care cost, length of stay, and service quality[7].

The data analysis utilized the chi-square test as the statistical test.

3. Results

The analysis results using SPSS software, it could be seen that the characteristic of respondents wasbased on the frequency distribution by sex, age, and education level as the list in Table 1 below:

Table 1.The Characteristic of Respondents

No.	Variables	Hospital Class				Total		p-value
			II		I			
		Sample	%	Sample	%	Sample	%	
A	Sex							
	Male	21	21%	19	19%	40	40%	.935
	Female	32	32%	28	28%	60	60%	
B	Age							
	Teenager	4	4%	2	2%	6	6%	
	Adult	26	26%	21	21%	47	47%	.665
	Old	18	18%	21	21%	39	39%	
	Elderly	5	5%	3	3%	8	8%	
C	Education Level							
	Low	12	12%	4	4%	16	16%	
	Secondary	28	28%	21	21%	49	49%	.031
	High	13	13%	3	3%	35	35%	

Based on Table 1, it isidentified that most of the respondents'sex are women (60%), with an age range of adults (47%) and a secondary level of education (49%). In addition, according to the results of the chi-square test, it is discovered that the education level has a significant correlationbetween the selection of inpatient classes andthe p-value of 0.031.

For the test results, the correlationbetween the ability and willingness to pay with the selection of inpatient classes isexplained in Table 2 as follows:

Table 2. The Correlation between Patients'Ability and Willingness to Pay in Selecting Inpatient Classes at Public Hospital in Madiun

No.	Variables	Classhospital				Total		p-value
			II		I			
		Sample	%	Sample	%	Sample	%	
I	Ability to Pay							
A	Employment							
	Civil Servant	1	1%	14	14%	15	15%	
	Private Employee	12	12%	4	4%	16	16%	.000
	Entrepreneur	17	17%	6	6%	23	23%	
	Others	23	23%	23	23%	46	46%	
B	Income							
	Low	31	31%	2	2%	33	33%	.000
	High	22	22%	45	45%	67	67%	
C	Expenditure							
	Low	20	29%	8	8%	28	28%	.021
	High	33	33%	39	39%	72	72%	
D	Total Family Covered							
	A few	30	30%	30	30%	60	60%	.462

	Many	23	23%	17	17%	40	40%	
E	Health Insurance							
	Unaffecting	12	12%	2	2%	14	14%	.008
	Affecting	41	41%	45	45%	86	86%	
II	Willingness to Pay							
A	Rates							
	Unaffecting	2	2%	0	0%	2	2%	.179
Affecting		51	51%	47	47%	98	98%	
B Length of Stay								
Unaffecting		5	5%	7	7%	12	12%	.219
Affecting		48	48%	40	40%	88	88%	
C Service Quality								Constant
Unaffecting		0	0	0	0	0	0	returns
Affecting		53	53%	47	47%	100	100%	

From Tables 2, the variables on the ability to pay with work, income, and expendituresub-variables are significantly related to the selection of inpatient classes at patients in one of public hospitals in Madiun. The chi-square test results showed that the variable work hada p-value of 0.000, income had a p-value of 0.000, and expenditurehad a p-value of 0.021. On the other hand, the willingness variable had no significant correlation in inpatient class selection at patients.

4. Discussion

From the results, it could be concluded that all respondents who worked ascivilservants chose class Iinpatient. In contrast,the respondents who workedas privateemployees and entrepreneurs mostly chose class II inpatient. In sub-variable income, it wasidentified that the level of income had a significant correlation with inpatient class selection in patients at one of the public hospitals in Madiun. As many as 31% of the respondents with lower income preferred class II inpatient. In comparison,45% of the respondents with high income preferred class I inpatient. Thus, the lower the respondents' income, the more they tended to prefer class II inpatient. This result was consistent with the test results of the correlation test, where there is a significant correlation between patients' ability to pay with inpatient class selection.

This condition followed the explanation of Adisasmito[8] in the factors that affected the ability to pay, where health service costs generally increased with an increase in revenue because they demanded more advanced services that make health service costs were higher. This situation was influenced by some factors, i.e., health knowledge and awareness of the respondent groupwith high income which was better than those with low income. Therefore,the respondents who worked as a civil servant and/or have a high income chose class I inpatient and vice versa.

The correlation test results of the willingness to pay for the inpatient class selection discovered no significant correlation. As listed in the Table, the test results ofthe sub-variable correlation of inpatient/hospitalizationrates and servicesquality generatedconstantvalue.All respondents claimedthat the inpatient/hospitalizationrates and servicesqualitywastaken into consideration when choosing the inpatient rooms classes.

This condition is in accordance with the research stating that thewillingness to pay depends on variables such as knowledge, perception, completeness of facilities and health services, the ease of collecting dues, and the staff/officers' behavior. Therefore,

inpatient/hospitalizationrates and servicesqualitywere deemed to have met the respondents' expectations so that the respondents were capable or had a high willingness to access the inpatient services.

Based on the Table, the correlation between the patients'ability and willingness to pay in selecting inpatient classes could be concluded as a condition of ATP equal to the WTP. This condition showed that the ability and willingness to pay services consumed by the users were similar or the same.In this condition, the users' utilities balance occurred with the costs incurred to pay for the services[9]. This condition indicated that 31% of respondents with low income preferred class II inpatient,whereas 45% of the respondents with high income preferred class I inpatient. Thus, the patients with lower income levels would choose class II inpatientaccording to their ability, with a high level of willingness to pay. In contrast, the patients with high levels of income would choose a class I inpatient with a high level of willingness topay. Thiswasin accordance withGupta in Fauziyah[10] at International Conference on Social Health Insurance in Developing Countries, that the low ability to pay correlated with the willingness to pay[11].

When viewed from the users' aspect, in this case,the users became the subject who determined the rates value applied, and the calculation of the rateswas far below the ATP and WTP. There was flexibility in the calculation/submission of new rates value[12]. However, further research is required on the level of patients' willingness to pay to evaluate whether inpatient/hospitalization rates requires to be read for the development of publichospitals in Madiun.

5. Conclusion

The variables on the ability to pay are significantly related to the selection of inpatient classes at patients of publichospitals in Madiun withsub-variables that are significantly associated with the selection of inpatient classes as work, income, and expenditure. The correlation between the patients'ability and willingness to pay in selecting inpatient classesinclude the condition of ATP equal to the WTP. This condition shows that the ability and willingness to pay services consumed by the users are similar or the same.

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