



The influence of the physical environment of Class III inpatient rooms on patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Hospital

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ABSTRACT

Hospitals must meet the technical requirements of hospital facilities and infrastructure that support complete health services. The facts show that the increase in patient satisfaction is influenced by the quality of the physical facilities of the ward. This study aimed to influence the comfort of the physical environment of Class III Inpatient Room on patient satisfaction at Tgk Chik Di Tiro Regional General Hospital Sigli in 2022. This is an analytical study with a survey approach. The location was at Tgk Chik Di Tiro Hospital Sigli. The population was 134 people and the sample was 93 people. The sampling technique used proportional random sampling. The independent variables include air quality, temperature, humidity, room layout, noise, floor conditions, ceiling and lighting conditions, while the dependent variable is patient satisfaction. Data analysis used chi-square and multiple logistic regressions. The results showed that the variables of air quality ($p = .009$), temperature ($p = .002$), room layout ($p = .013$), noise ($p = .018$) and floor conditions ($p = .006$) had a significant effect on inpatient satisfaction at the Hospital. It can be concluded that temperature is the dominant variable influencing the satisfaction of inpatients at Tgk Chik Ditiro Sigli Hospital. It is suggested to the hospital manager to improve the hospital physical quality such as temperature, air quality, noise or other physical environment in order to improve the hospital's image and customer satisfaction.

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1. INTRODUCTION

Hospitals must meet the technical requirements for hospital facilities and infrastructure that support complete health services. All these requirements must be planned in accordance with applicable standards and rules which have also been stipulated in the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2016 concerning Engineering Requirements for Hospital Buildings and Infrastructure. Hospital physical buildings that comply with existing standards can support improving the performance of hospital human resources. This is because the physical condition of the work environment affects the health of the user and also affects the time for completing work.

The increase in demand for health services is driven by the increase in the human population who requires assistance from health services such as hospitals. In an effort to provide optimal health services, there are always challenges, especially in terms of the number of patients which is increasing day by day due to the increase in individuals suffering from disease, in this case hospitals must pay attention to the patient's physical comfort because it will have an influence on patient satisfaction. Meanwhile, recently patient satisfaction has become an important indicator in measuring the quality of health services, including in all hospitals throughout the world.

In addition, in class III hospital inpatient services, malpractice cases often occur. Research at several large hospitals in Jakarta found that standard operational procedures were ignored or skipped when providing services to patients in the treatment room. Research in several hospitals found that 98,000 people died due to medical errors (Institute of Medicine Survey). Furthermore, research conducted by Health Grades Colorado found that more than 195,000 Americans died due to medical errors and inadequate physical hospital environments which resulted in a feeling of dissatisfaction from patients with the quality of doctor, clinic or hospital services. Several studies have proven that high quality health services will meet the expectations of health service users. The higher the quality of service, the lower the number of unexpected events and the greater the satisfaction of patients.

Standards for patient satisfaction in health services are set nationally by the Ministry of Health. According to the 2016 Regulation of the Ministry of Health of the Republic of Indonesia concerning minimum service standards for patient satisfaction, namely above 95%. If health services are found with a patient satisfaction level below 95%, it is considered that the health services provided do not meet minimum standards or are of poor quality. The quality of services in hospitals can be improved if supported by improvements in the quality of physical facilities. Class III inpatient rooms are a form of physical facility whose existence is important for patient care. The physical environmental conditions of the inpatient room also affect the patient's psychology. The inpatient room is noisy, the air temperature is too hot, the lighting is inadequate, cleanliness and tidiness are not maintained will increase stress in patients. The inpatient room should inspire optimism so that it can help the patient's healing process.

Air conditioning in hospitals is important to pay attention to, because it is directly related to the comfort of the human body. Apart from supplying fresh air for breathing and body metabolism, good ventilation is also related to creating a room temperature that is conducive to the body, so that energy from within the body will not be used up to adapt to differences in room temperature. The physical effect of noise on humans not only disturbs the hearing organs, but can also cause problems with other body organs, such as narrowing of blood vessels and the heart system. Lighting is an important factor in space design. Thus, the light intensity needs to be adjusted to produce appropriate vision needs in the space based on the type of activity. The direction of light directly towards the eye with high intensity can create glare. Therefore, the direction of light and its reflection or refraction effects also need to be regulated to create comfortable viewing of the space. Furthermore, according to the Indonesian Ministry of Health, the physical environment of a hospital that can influence patient satisfaction with hospital services includes the layout of room facilities (beds, tables, cupboards, nurse calls, chairs, televisions, drapes). Apart from that, noise level is also an indicator of patient comfort that needs to be considered. Furthermore, the air condition, appropriate temperature, the condition of the floor which is not slippery and has a flat surface are separate assessments for the patient.

The next component is the condition of the ceiling and ease of access to supporting facilities in the hospital. Difficulty in accessing supporting facilities will make patients feel dissatisfied with the services available at the hospital. Because patient satisfaction is the first indicator of hospital quality standards and a measure of service quality, patient satisfaction must be realized. Low patient satisfaction will have an impact on the number of visits which will affect the profitability of the hospital, while the physical condition of the inpatient room will also have an impact on customer satisfaction where customer needs will increase over time, as will their demands for the quality of services provided. Tgk Abdullah Syafi'i Beureunuen Regional General Hospital is a hospital with a total of 10 inpatient rooms consisting of men's internal medicine room, women's internal medicine room,

obstetrics room, children's room, lung room, mental health room, surgical room, the nerve room, ENT room, and perinatology room, provide services in the form of services to all patients who come for treatment. The number of inpatient patients throughout 2019 was 2026 people based on medical record data from the Tgk Abdullah Syafi'i Beureunuen Regional General Hospital. Based on the previous description, it was found that the availability of a good physical environment will help the inpatient room to achieve patient satisfaction. An adequate physical environment will modify the patient's assessment of the hospital, the assumption could be good or vice versa depending on how the environment itself is provided by the hospital.

Based on an initial survey conducted by the author through interviews with 15 patients treated in class III inpatient care at the Tgk Abdullah Syafi'i Beureunuen Regional General Hospital, data was obtained that 6 people said they were uncomfortable undergoing treatment because the hospital environment was not conducive due to the crowds, patients being treated. Apart from that, some of them also said that the room felt hot and stifling, especially during the day. The arrangement of items in the room is also placed haphazardly and is not pleasing to the eye of the patient. The patient admitted that he was not satisfied with the service he received while undergoing treatment. Furthermore, 5 patients said that they were very stressed when they had to be placed in the hospital corridor because the treatment room was full even temporarily. The patient was dissatisfied with the services provided during the treatment process.

2. RESEARCH METHOD

This research is analytical in nature with the population in this study being all patients undergoing treatment in the class III inpatient ward of Tgk Abdullah Syafi'i Beureunuen Regional Hospital in January 2022 totaling 134 people. Data was collected directly from respondents by distributing questionnaires. The research results were processed by computer and presented in the form of frequency distribution tables and cross tabulations. The research was conducted from 8 to 11 September 2020. The data analysis used in this research was univariate analysis and bivariate analysis. Univariate analysis is analysis carried out to analyze one variable or each variable from the research results. The purpose of this analysis is to explain/describe the characteristics of each variable studied. Bivariate analysis is carried out to determine the relationship between independent variables and dependent variables through Crosstabs or cross tabulations. The statistical test carried out in this Bivariate analysis was using the Chi-Square test with a confidence level of 95% ($\alpha = 0.05$). It is said that there is a statistical relationship if a p value < 0.05 is obtained, with a validity test using SPSS. Data presentation is carried out after the data has been processed and presented in the form of a frequency distribution table and cross table.

3. RESULTS AND DISCUSSIONS

The results of statistical tests using the chi-square test show that the p-value is 0.022 < 0.05 , which means there is a relationship between air quality and the satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between air quality and patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital can be seen in Table 1 as follows:

Table 1. Relationship between Air Quality and Inpatient Satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital

No	Air quality	Satisfaction				Amount		p-value
		Not satisfied		Satisfied		f	%	
		f	%	f	%	f	%	
1	Not good	36	38.7	14	15.1	50	53.8	0.022
2	Good	20	21.5	23	24.7	43	46.2	
	Amount	56	60.2	37	39.8	93	100.0	

Table 2. Relationship between air temperature and inpatient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital

No	Air temperature	Satisfaction				Amount		p-value
		Not satisfied		Satisfied		f	%	
		f	%	f	%	f	%	
1	Not good	36	38.7	15	16.1	51	54.8	0.041
2	Good	20	21.5	22	23.7	42	45.2	

Amount	56	60.2	37	39.8	93	100.0
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The results of statistical tests using the chi-square test showed that the p-value was $0.041 < 0.05$, which means there is a relationship between temperature and satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between temperature and patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital.

Table 3. Relationship between humidity and satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital

No	Humidity	Satisfaction				Amount		p-value
		Not satisfied		Satisfied		f	%	
		f	%	f	%			
1	Moist	36	38.7	18	19.4	54	58.1	0.200
2	Not damp	20	21.5	19	20.4	39	41.9	
	Amount	56	60.2	37	39.8	93	100.0	

The results of statistical tests using the chi-square test show that the p-value is $0.200 > 0.05$, which means there is no relationship between humidity and satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between humidity and patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital.

Table 4. Relationship between room layout and inpatient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital

No	Space Layout	Satisfaction				Amount		p-value
		Not satisfied		Satisfied		f	%	
		f	%	f	%			
1	Not good	35	37.6	14	15.1	49	52.7	0.034
2	Good	21	22.6	23	24.7	39	41.9	
	Amount	56	60.2	37	39.8	93	100.0	

The results of statistical tests using the chi-square test show that the p-value is $0.034 < 0.05$, which means there is a relationship between room layout and satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between room layout and patient satisfaction at Tgk Chik Regional Hospital in Tiro Sigli.

Table 5. Relationship between noise and inpatient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital

No	Noise	Satisfaction				Amount		p-value
		Not satisfied		Satisfied		f	%	
		f	%	f	%			
1	Noisy	31	33.3	11	11.8	42	45.2	0.027
2	Not noisy	25	26.9	26	28.0	51	54.8	
	Amount	56	60.2	37	39.8	93	100.0	

The results of statistical tests using the chi-square test show that the p-value is $0.027 < 0.05$, which means there is a relationship between noise and the satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between noise and patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital.

Table 6. Relationship between Floor Condition and Inpatient Satisfaction at Tgk Abdullah Syafi'i Beureunuen Hospital

No	Circumstances Floor	Satisfaction				Amount		p-value
		Not satisfied		Satisfied		f	%	
		f	%	f	%			
1	Not good	36	38.7	15	16.1	51	54.8	0.041
2	Good	20	21.5	22	23.7	42	45.2	
	Amount	56	60.2	37	39.8	93	100.0	

The results of statistical tests using the chi-square test show that the p-value is $0.041 < 0.05$, which means there is a relationship between the condition of the floor and the satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between floor conditions and patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital.

Table 7. Relationship between Ceiling Condition and Inpatient Satisfaction at Tgk Abdullah Syafi'i Beureunuen Hospital

No	Ceiling Condition	Satisfaction				Amount		<i>p-value</i>
		Not satisfied		Satisfied		f	%	
		f	%	f	%			
1	Not good	32	34.4	16	17.2	48	51.6	0.271
2	Good	24	25.8	21	22.6	45	48.4	
	Amount	56	60.2	37	39.8	93	100.0	

The results of statistical tests using the chi-square test show that the p -value is $0.271 > 0.05$, which means there is no relationship between the condition of the ceiling and the satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between ceiling conditions and patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital.

Table 8. Relationship between lighting and inpatient satisfaction at Tgk Abdullah Syafi'i Beureunuen Hospital

No	Lighting	Satisfaction				Amount		<i>p-value</i>
		Not satisfied		Satisfied		f	%	
		f	%	f	%			
1	Uncomfortable	31	33.3	12	12.9	43	46.2	0.050
2	Comfortable	25	26.9	25	26.9	50	53.8	
	Amount	56	60.2	37	39.8	93	100.0	

The results of statistical tests using the chi-square test show that the p -value is $0.050 < 0.05$, which means there is a relationship between lighting and the satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital. The relationship between lighting and patient satisfaction at Tgk Abdullah Syafi'i Beureunuen Regional Hospital.

Table 9. Candidate test results

No	Research variable	<i>p-value</i>
1	Air quality	0.022
2	Air temperature	0.041
3	Humidity	0.200
4	Space layout	0.034
5	Noise	0.027
6	Floor condition	0.041
7	Lighting	0.050

The variables included in the backward method multiple logistic regression prediction model are variables that have a p value < 0.25 in the bivariate analysis, so that based on these provisions there are 7 research variables included as multivariate candidates.

Table 10. The influence of the physical environment of the inpatient room consisting of air quality, air temperature, humidity, room layout, noise, floor condition and lighting on the satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital

No	Variable	B	Sig.	Exp(B)	95% CI for EXP(B)	
					Lower	Upper
1	Air Quality	1,432	0.011	4,186	1,382	12,679
2	Temperature	1,679	0.005	5,363	1,665	17,268
3	Humidity	-0.389	0.538	0.678	0.197	2,334
4	Space layout	1,431	0.014	4,181	1,335	13,099
5	Noise	1,326	0.020	3,764	1,235	11,476
6	Floor condition	1,578	0.009	4,845	1,487	15,793
7	Lighting	0.551	0.303	1,735	,608	4,950
	Constant	-4,294				

Based on the results of the first stage of multivariate analysis, it is known that the variables air quality ($p=0.011$), temperature ($p=0.005$), room layout ($p=0.014$), noise ($p=0.020$) and floor condition ($p=0.009$) influence satisfaction. inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital with a p value < 0.050 , while the humidity ($p=0.538$) and lighting ($p=0.551$) variables had no influence on the satisfaction of inpatients at Tgk Abdullah Syafi'i Beureunuen Regional Hospital with a p value > 0.050 . The influence of the physical environment of the inpatient room consisting of air quality, air temperature, humidity, room layout, noise, floor condition and lighting on inpatient satisfaction.

4. CONCLUSION

There is an influence of air quality, temperature, layout, condition of the floor, noise, humidity and condition of the floor on patient satisfaction in the Class III Inpatient Room at Tgk Abdullah Syafi'i Beureunuen Hospital. There is no influence of the condition of the ceiling and lighting on patient satisfaction in the Inpatient Room. Class III RSUD Tgk Abdullah Syafi'i Beureunuen, The most dominant variable influencing the satisfaction of inpatients at RSUD Tgk Abdullah Syafi'i Beureunuen is the temperature variable. Based on the research results, it is necessary to provide advice to the management and managers of RSUD Tgk Abdullah Syafi'i Beureunuen, Management and management of Tgk Abdullah Syafi'i Beureunuen Regional Hospital should continue to strive to improve and maintain the image of the hospital through improving the physical environment and customer satisfaction so that customer loyalty is always maintained and higher. Improving health services can be done by improving air quality, increasing the temperature of inpatient rooms so that they meet standards, through effective room layout so that it makes it easier to use room facilities, installing soundproofing so that the atmosphere remains calm. The management of Tgk Abdullah Syafi'i Beureunuen Regional Hospital is advised to carry out cross-sector collaboration together with the regional government in proposing hospital renovations and modifying each inpatient room so that the temperature, lighting, humidity and noise and other physical environmental factors meet the health requirements of the home environment. Sick. Management can also submit an evaluation of the physical environment, regular physical environmental measurements such as measuring room humidity, measuring lighting, observing the physical condition of the building such as the condition of floors and ceiling conditions internally and discussing the development of the physical building of the hospital so that it meets hospital standards. which has been set. With the aim of improving the quality of hospital services and increasing patient satisfaction when hospitalized at Tgk Abdullah Syafi'i Beureunuen Regional Hospital.

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