Differences in Customers Satisfaction Level Towards Online Registration System and Direct Registration System at RSUP Sardjito Yogyakarta's Outpatient Ward

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ABSTRACT

Background: The development of technology and information affects various aspects, one of them is health service, the so-called e-health. One of the ways of e-health implementation is the online registration, that is applied along with direct registration. The aim of this service is customer satisfaction, which is according to the minimum standard of service; the level of satisfaction is more than 90%. It is expected that with the use of an effective and efficient registration system, and a minimum wait time, patients' satisfaction level will be increased.

Objectives: To determine the differences in customers' satisfaction level towards online registration system and direct registration system at Dr. Sardjito General Hospital Yogyakarta's Outpatient Ward.

Methods: This is a quantitative research with a cross sectional approach. The samples in this research were 100 respondents who were divided into two groups, namely online registration group and direct registration group, each consists of 50 people, the samples were selected using an accidental sampling technique. The data collected were analyzed using a chi-square statistics test.

Results: In terms of satisfaction level, the online registration group achieved 62% satisfied respondents and 38 unsatisfied respondents. In the direct registration group, there were 46% customers who were satisfied, and 54% respondents unsatisfied. The chi-square test results showed a p value = 0.108 ($p < 0.05$).

Conclusions: There were no differences in customers' satisfaction level towards online registration system and direct registration system.

Keywords: *Customer Satisfaction; Online Registration System; Direct Registration System; E-Health*

INTRODUCTION

The development of information technology influences and supports changes in various aspects, one of which is health (1). The development of information technology is an opportunity that provides convenience in strengthening and developing health information systems, known as e-health (2).

The implementation of e-health in several countries cannot be implemented optimally. Research in the United States explains that from countries in America that implement national e-health policies there are only 26.3% of entities that oversee the quality, safety and reliability of regulations for e-health (3). The application of e-health in Indonesia, under the auspices of the Minister of Health of the Republic of Indonesia No 97 of 2015. There are 8 applications available in e-health including medical records, laboratory information, pharmaceutical information, patient registration system, tracking system, patient evaluation and monitoring, clinical decision support systems, patient reminder systems, data collection / research systems (4).

The Ministry of Health's Data and Information Center (PUSDATIN) in 2018 mentioned that of 2776 hospitals in Indonesia, there were only 370 hospitals recorded or only 13% had provided online registration services (5,6). Special Region of Yogyakarta (DIY) itself, of the 81 hospitals there are 15 hospitals or 18% that have done online registration services, one of which is the Central General Hospital (RSUP) Dr. Sardjito (5,7).

Online registration, especially those registering through the website and application have gone through the verification process through online, thereby reducing the waiting time of the queue. This will have an impact on the level of patient satisfaction, in line with a study entitled "The relationship between waiting time for registration and patient satisfaction at the outpatient registration place (TPPRJ) Sukoharjo Regional Hospital", the results suggest that the fast waiting time for registration makes patients satisfied with service (8).

Based on the preliminary study, the Medical Record Installation (ICM) data, from the average number of visitors each month at the Outpatient Installation (IRJ), was 62190 people. The number of IRJ patients who registered online in May 2018 was 3340 people, in June 2642 people, and in July there were 3890 people. The data shows the high demand for users of online registration service facilities,

however, the number of these user needs to be evaluated already satisfied with the service or even experiencing disappointment.

Evaluation of the success of a service delivery, can be measured by the level of satisfaction of service recipients (9). As a new service, online registration at RSUP Dr. Sardjito has never done an evaluation of customer efficiency and response. In fact, evaluation will be needed as a basis for the development and improvement of the program. Based on the background of the exposure, the researcher is interested in examining the different levels of customer satisfaction with the online registration system and the direct registration system at the Dr. Outpatient Hospital Dr. Sardjito Yogyakarta.

MATERIALS AND METHODS

The type of research used is observational research with a cross sectional study design, which is a type of research that emphasizes the measurement or observation of data at one time at a time carried out on the dependent variable and the independent variable. (10). The population is all patients who visited the Outpatient Installation Dr. Sardjito number 62190 with non probability accidental sampling technique.

The sample size calculation is determined based on the calculation according to Slovin, obtained as many as 100 samples divided into 2 groups, namely the online registration group and the direct registration group, the inclusion criteria were old patients with at least 3 visits using online registration and at least 3 visits by direct registration, can read and write, good awareness and are willing to take part in research, while exclusion criteria are social health insurance patients.

The type of data collected includes data on the characteristics of research subjects and the level of satisfaction measured using a structured questionnaire. The data obtained is then processed using univariate and bivariate statistics. Chi square analysis was conducted to see differences in the level of satisfaction between the online registration group and the direct registration group. This research was conducted for 8 days, January 15-24, 2019.

RESULTS AND DISCUSSION

Characteristics of Research Subjects

Table 1. Frequency distribution of respondent characteristics in the outpatient installation of RSUP Dr. Sardjito Yogyakarta

Characteristics of Respondents		Registration Type			
		Online Registration		Direct Registration	
		n	%	n	%
Age (years)	17 - 25	8	16	6	12
	26 - 35	17	34,	11	22
	36 - 45	8	16	15	30
	46 - 55	10	20	12	24
	56 - 65	5	10	5	10
	>65	2	4	1	2
Gender	Female	25	50	32	64
	Men	25	50	18	36
Education Level	S2	2	4	0	0
	S1	19	38	15	30
	D3	7	14	5	10
	SLTA	21	42	23	46
	SLTP	0	0	6	12
	SD	1	2	1	2
Family Relationships	Patient	24	48	15	30
	Family	26	52	35	70
Address	Foreign D.I Yogyakarta	24	48	21	42
	D.I Yogyakarta	26	52	29	58
Type of Online Registration	Application	32	64	0	0
	Website	11	22	0	0
	WA	7	14	0	0
	Phone	0	0	0	0
	SMS	0	0	0	0

Source: Primary data for 2019

The results showed that the characteristics of respondents in the online registrar group for sex were as many as between male and female respondents each totaling 25 people or 50% percent, while in the direct registration group 32 people or 64% women and 18 people or 36% Male. This is because researchers took samples with non-probability accidental sampling techniques, based on the samples found and were willing to become respondents without assessing sample search by sex.

Gender has an influence on views or satisfaction with the services rendered. Women see more appearance in detail and critical, while men ignore it (11). Satisfaction in the direct registration group where the respondents were more female showed more dissatisfaction. This result contradicts Budiman's research which found that more women expressed satisfaction than men (12).

In terms of age characteristics, the largest percentage of online registrants aged 26-35 years was 17 people or 34%, while in the direct registrar group the largest percentage was aged 36-45 years at 15 people or 30%. The age difference will affect the level of satisfaction, because someone who is more mature has a perception and meaning of satisfaction that is better than younger (13). In contrast to the results in this study, the majority of respondents in the direct group were late adults, compared to the online registration group which was dominated in early adulthood, but the level of satisfaction in online registration was more satisfied than the direct registration group.

This phenomenon is supported by Budiman who said that age cannot be a benchmark for determining satisfaction, because in reality someone who is younger can be more experienced and more satisfied than someone who is older (12). This contradicts Gunarsa's theory and the results of Resmisari's study which states that older patients have lower expectations so they are more satisfied (11,14). Respondents to the online registrar group were more satisfied because at this age they understood technology more so they felt made easier with the online registration system (12).

At the highest level of education, namely senior secondary education, in the online enrollment group there were 21 people or 42%, and in the direct registration group 23 people or 46%. However, in the online enrollment group there were more respondents with a tertiary education, where education would influence lifestyle and mindset (15) in line with Nurus Sa'idah's research which said the experience, IT skills and knowledge variables significantly influenced the use behavior of online registration (16).

In the category of relationships with the majority of patients as a family of 26 people or 52% in the online registration group and 35 people or 70% in the direct registration group. At this age, individuals begin to ignore their personal desires or rights that may be a necessity, but sometimes put family first (17). There are more dwellings in the D.I. region. Yogyakarta totaling 26 people or 52% in the

online registration group and 29 people or 58% in the direct registration group. This is in accordance with research by Dewi who concluded that in utilizing health services people will consider factors including: transportation costs, distance to the nearest health center, medical expenses, and physical access (8). Respondents from outside Yogyakarta are referral patients who for some reason cannot get services in their area of origin, so to get further services they are referred to Dr. Sardjito as type A national referral hospital.

The largest type of registration respondents use application facilities in the amount of 32 people or 64%. Dr. RSUP online registration application Sardjito can be downloaded on a smart phone, so registration can be done anywhere, at any time. Registration using the application, the registration process can be done until the verification process is complete, and is not influenced by other users who are accessing the website.

Table 2. Differences in customer satisfaction levels by type of registration

Type of Registration	Satisfaction				$\sum$N	X^2	P
	Satisfied		Not satisfied				
	n	%	n	%			
Online Registration	31	62	19	38	50	2,57	0,108
Direct Registration	23	46	27	54	50		

Source: Primary data for 2019

Based on the table above shows that respondents with online registration more satisfied (62.0%), while direct registration more dissatisfied (54.0%). Chi square test results, namely p = 0.108, indicate that a value> 0.05, which means that the difference in the level of customer satisfaction using online registration and direct registration is not significant. This is because the respondent is an old patient who has repeatedly utilized the services at the hospital. Sardjito so that they feel comfortable with the direct registration system that they are accustomed to. Customer dissatisfaction with direct registration is more in the long registration process, but this can still be understood because of the customer's awareness of the large number of patients who must be served.

Online registration system is still in the stage of evaluation and improvement. Some customers complain that verification code notification and input error notification facilities are too long, often approaching the check day. This reasoning was stated by several online customers who finally decided to switch back to the direct registration system, if this was not immediately dealt with, then online registration users had the risk of being reduced. Some customers also complained about the queue of APM machines in the morning, which is because there are still many customers who come in the morning because they expect to get an initial queue number to get a doctor's examination. This is due to the administration of the doctor's queue number based on the patient's arrival time.

CONCLUSION AND RECOMMENDATION

Based on the research results, the following conclusions can be drawn:

1. Demographic characteristics of respondents in the online registration group, majority aged 26-35 years, high school education level, same sex ratio, as a family and residing in the D.I area of Yogyakarta. The most widely used type of online registration is the online application Dr. Sardjito.

2. Demographic characteristics of respondents in the direct registration group, majority aged 36-45 years, high school education level, female sex, as family and resides in the D.I area of Yogyakarta.

3. Customer satisfaction online registration system 62% expressed satisfaction, 38% dissatisfied. Direct registration system customer satisfaction 46% expressed satisfaction, 54% expressed dissatisfaction.

4. Based on the chi square test results obtained p = 0.108 (p <0.005), this shows there is no difference in customer satisfaction online registration system and direct registration system.

RECOMMENDATION

1. Alma Ata University

The results of this study serve as library information media for students and additional study material in learning and research related to hospital management information systems (SIMRS).

2. RSUP Dr. Sardjito

To improve services so that Dr. Sardjito:

a. Applying the queuing number of doctor services according to the order of registration on the online registration, so that there is no buildup of registrants who register on the APM machine.

b. To socialize the policy of medical hospital-based medical service provider, the service provider doctor is the consulent doctor and the student specialist and prospective counselor under the responsibility of DPJP.

c. Increase the speed of verification services and provide information on the occurrence of errors / lack of input data on online registration.

d. So that all members of the hospital community actively socialize to customers regarding the effectiveness of using the online registration system directly or through social media.

3. For Respondents

The results of this study can provide input to customers about the effectiveness of the online registration system so that it can be taken into consideration in determining the registration system to be carried out.

4. For Further Researchers

The results of this study can be used as consideration and further research is developed on the factors that influence the low use of online registration systems.

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