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Original Article

Patients Satisfaction with the Chronic Disease Management Program in Indonesia Using the Importance-Performance Matrix

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Abstract

Background: Indonesia still has a high prevalence of hypertension and diabetes mellitus. On the other hand, essential health services were disrupted during the COVID-19 pandemic. Hence, the quality of service still needs to be prioritized. The government also obliges the government-owned primary healthcare facilities (*Pusat Kesehatan Masyarakat,* Puskesmas) to conduct customer satisfaction surveys to evaluate service quality. This study was conducted to analyze patients' satisfaction with the chronic disease management program (Program Pengelolaan Penyakit Kronis, Prolanis) provided by Puskesmas in Bogor City, Indonesia.

Methods: Quantitative research with a survey approach using the CSI-29 questionnaire was conducted from October to November 2021 on 104 Prolanis participants from 6 Puskesmas in Bogor City, West Java, Indonesia. The variables were 9 dimensions of satisfaction based on the CSI-29 questionnaire. Data was transformed using the Rasch model and analyzed using the Importance-Performance Matrix (IPM).

Results: Of the 104 participants, there were 78 (75%) were satisfied with the Prolanis services provided by the Puskesmas. The IPM analysis showed that the dimensions of requirements, procedures, costs, type of service products, and attitudes of health workers had low expectations and perceived performance level.

Conclusion: Most of the Prolanis participants are merely satisfied with the Prolanis services provided by the Puskesmas in Bogor City, Indonesia.

Keywords: Importance-Performance Matrix, prolanis, satisfaction

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Introduction

Non-communicable diseases (NCDs) are close community diseases and highly prevalent. The incidence rate of NCDs in West Java, Indonesia, notably hypertension, reached 39.6% among the population aged 18 years and over. Diabetes mellitus was also one of the NCDs with a concern able incidence rate of 1.28% among all population ages.[1] These NCDs are chronic diseases. Patients with chronic diseases receive services from the Health Social Security Administration (*Badan Penyedia Jaminan Sosial Kesehatan*, BPJS Kesehatan). BPJS Kesehatan organizes a chronic disease service program (*Program Pengelolaan Penyakit Kronis*, Prolanis) by involving participants and healthcare facilities as a form of service for chronic disease patients. This program aims to encourage BPJS Kesehatan participants to achieve optimal quality of life with cost-effective health services.[2]

The public-owned primary healthcare facilities (*Pusat Kesehatan Masyarakat,* Puskesmas) are public service providers expected to provide high-quality health services. To measure the quality of services, Puskesmas must regularly conduct customer satisfaction surveys at least once a year to improve the quality of services,[3] including Prolanis services. Prolanis itself is classified as an essential health service. However,

the COVID-19 pandemic has caused service disruptions resulting in decreased service performance.

The satisfaction of Prolanis participants on services at the Puskesmas in Bogor City is not yet known. This study was conducted to analyze the Prolanis participants' satisfaction with the services provided by Puskesmas in Bogor City. The preceding explanation demonstrates the importance of conducting a customer satisfaction survey to assess the quality of services that have been provided. The expected outcome of this study is the evaluation and improvement of the quality of Prolanis services.

Methods

The research design was quantitative with a survey approach using the CSI-29 questionnaire. Data collection was carried out from October to November 2021 in six Puskesmas in Bogor City. The research location was determined using the cluster sampling method from 25 Puskesmas spread over six sub-districts of Bogor City. One Puskesmas was selected from each sub-district using a purposive sampling method based on the highest number of NCDs patients in each sub-district.

This survey used the cluster sampling method. The population was grouped based on the research location, namely the six health centers that had been selected. The sample was determined using the consecutive method based on the inclusion and exclusion criteria.

The total sample were 104. Samples were determined based on inclusion criteria and exclusion criteria. The inclusion criteria were Prolanis participants aged 18 years and over, registered as Prolanis participants at the Puskesmas where the study was conducted, being present when the study was conducted at the related Puskesmas, having received Prolanis services more than once, being able to read and write in Indonesian, willing to become research respondents and not suffering from dementia based on information from the person in charge of Prolanis activities at each Puskesmas. The exclusion criteria were Prolanis participants who did not fill out the questionnaire completely. Table 2 shows the characteristics of respondents who have participated in this study. It is known that most of the respondents were women (93.27%), aged 45–59 years old (60.58%), diagnosed with hypertension (52.88%), and had their recent education in elementary school (35.58%).

The questionnaire used was valid and reliable based on the results of research conducted by previous study[4] and the measured results from this study as presented in Table 1. The scale used in this questionnaire was the Likert scale with four levels, namely strongly disagree, disagree, agree, and strongly agree. This questionnaire consists of 29 items grouped into nine dimensions, including requirements (3 items), procedures (3 items), service time (3 items), costs (3 items), product type of service (4 items), health workers' competency (3 items) health workers' attitudes (3 items), infrastructure (4 items), and complaints handling (3 items). This questionnaire can also determine the variable characteristics of respondents, namely gender, age, type of disease, and recent education. Gender variables are grouped into two categories, namely male and female. Age variables were grouped into three categories, namely ages 18–44 years old (adolescents and adults), 45–60 years old (pre-elderly), and over 60 years old (elderly). Types of disease variables were grouped into five categories: hypertension; diabetes mellitus; hypertension and diabetes mellitus; hypertension, diabetes mellitus, and other NCDs; and other NCDs. Educational variables were grouped into four categories: elementary school, junior high school, senior high school, and bachelor's degree.

The Rasch model transformed the collected data in the form of an ordinal scale into an interval scale using Winsteps version 3.73.[5] The mean logit score and standard deviation were obtained from the analysis

Table 1 Instruments Reliability and Model Fit

Psychometric Attribute	n
Number of person	104
Number of items	29
Outfit Mean Square	
Mean	3.32
Standard Deviation (SD)	2.05
Separation	3.13
Reliability	0.91
Cronbach's alpha	0.94
Uni-dimensionality	
Raw variance explained by measures	43.70%
Unexplained variance 1st contrast	7.5% (3.8)

Note: Measurement was based on perceived performance data

Table 2 Characteristics of Respondents

Characteristics of Respondents	Satisfaction Level (n,%)*				Total (n,%)
	Dissatisfied	Merely Satisfied	Satisfied	Very Satisfied	
Gender					
Male	0 (0)	4 (3.85)	1 (0.96)	2 (1.92)	7 (6.73)
Female	8 (7.69)	74 (71.15)	12 (11.54)	3 (2.88)	97 (93.27)
Age (years old)					
18–44**	0 (0)	5 (4.81)	2 (1.92)	0 (0)	7 (6.73)
45–59	8 (7.96)	43 (41.35)	9 (8.65)	3 (2.88)	63 (60.58)
≥ 60	0 (0)	30 (28.85)	2 (1.92)	2 (1.92)	34 (32.69)
Type of Diagnosis					
HT	6 (5.77)	40 (38.46)	7 (6.73)	2 (1.92)	55 (52.88)
DM	2 (1.92)	20 (19.23)	4 (3.85)	2 (1.92)	28 (26.92)
HT & DM	0 (0)	6 (5.77)	1 (0.96)	0 (0)	7 (6.73)
HT, DM & others	0 (0)	1 (0.96)	1 (0.96)	0 (0)	2 (1.92)
Others	0 (0)	11 (10.58)	0 (0)	1 (0.96)	12 (11.54)
Recent Education					
Elementary school	4 (3.85)	28 (26.92)	3 (2.88)	2 (1.92)	37 (35.58)
Junior high school	1 (0.96)	17 (16.35)	1 (0.96)	2 (1.92)	21 (20.19)
Senior high school	3 (2.88)	26 (25)	5 (4.81)	1 (0.96)	35 (33.65)
Bachelor's degree	0 (0)	7 (6.73)	4 (3.85)	0 (0)	11 (10.58)
Total	8 (7.69)	78 (75)	13 (12.5)	5 (4.81)	104

Notes: *Categorization was based on perceived performance data; **The youngest respondence was 30 years old; HT= hypertension, DM= diabetes mellitus

results on the perceived performance data. The standard deviation (SD) was used to determine the satisfaction level categories, namely dissatisfied (logit value less than the mean score subtracted by 1 SD), merely satisfied (logit value less than the mean score and more than the mean score subtracted by 1 SD), satisfied (logit value more than the mean score and less than the mean score added by 1 SD), and very satisfied (the logit value is more than the mean score added by 1 SD). Rasch model was also able to display the validity and reliability of an instrument. The instrument used in this study was reported to be valid and reliable based on the value of Cronbach's alpha (0.94), the value of item reliability (0.91), and the value of separation (3.13), which indicated a good category. Unidimensionality requirements had also been fulfilled, proven by the raw variance value, which exceeded 40% (43.70%), and the unexplained variance value did not exceed 15% (7.5%).

Importance-Performance Matrix (IPM) was an analytical technique based on survey results regarding various elements of service received by costumers.[6] The output of this analytical method was a graph that classifies the dimensions of satisfaction into four categories to help service providers identify the concern in satisfaction dimensions and the actions needed to improve customer satisfaction.[7] The IPM diagram was used in this study to map the dimensions of satisfaction based on groups of expectation data and perceived performance data.[6,8] This method focused its analysis on the illustration of the X-axis, which represented perceived performance, and the Y-axis which represented expectation. The two axes divided the field into four quadrants that interpret different degrees of importance.[6] The analysis was carried out by the position of each dimension in the four quadrants, which was created using Microsoft Excel 365 version 2112. The first quadrant showed the dimensions that were considered important by customers but had not yet fulfilled the expectations; therefore, these dimensions should be prioritized for quality improvement. The second quadrant showed the location of dimensions that were considered important by customers and had fulfilled the expectations; therefore, the quality of service in this quadrant should be maintained. The third quadrant showed dimensions that were considered less

Table 3 Dimensions of Satisfaction

Dimensions of Satisfaction	Satisfaction Level (n,%)*			
	Dissatisfied	Merely Satisfied	Satisfied	Very Satisfied
Requirements	1 (0.96)	51 (49.04)	52 (50)	0 (0)
Procedures	26 (25)	0 (0)	78 (75)	0 (0)
Service time	10 (9.62)	57 (54.81)	20 (19.23)	17 (16.35)
Costs	33 (31.73)	19 (18.27)	13 (12.50)	39 (37.50)
Product type of service	7 (6.73)	44 (42.31)	18 (17.31)	35 (33.65)
Health workers' competency	7 (6.73)	38 (36.54)	31 (29.81)	28 (26.92)
Health workers' attitudes	6 (5.77)	37 (35.58)	61 (58.65)	0 (0)
Infrastructure	22 (21.15)	28 (26.92)	25 (24.04)	29 (27.88)
Complaints handling	9 (8.65)	49 (47.12)	20 (19.23)	26 (25)

Note: *Categorization was based on perceived performance data

important by customers and had not fulfilled the expectations; therefore, the dimensions in this quadrant should also be improved even though they were not considered a priority. The fourth quadrant showed dimensions that were not considered important but had excessive service quality; therefore, it was necessary to limit the resource expenditure.[6]

This study had obtained permission from the Health Department of Bogor City, the National Unity and Political Agency of Bogor City, and selected Puskesmas. The Research Ethics Commission of the Universitas Padjadjaran Bandung had also issued ethical approval for this research under the number 700/UN6.KEP/EC/2021. The respondents signed the consent sheet containing the research objectives, participation, anonymity, and volunteerism of the survey before filling out the CSI-29 questionnaire.

Results

The analysis of perceived performance data using the Rasch model obtained a satisfaction level categorization of Prolanis participants with the received services. Table 2 presented the results of the categorization. It was known that 8 people (7.69%) of respondents were dissatisfied, 78 people (75%) were merely satisfied, 13 people (12.5%) were satisfied, and 5 people (4.81%) were very satisfied.

Table 3 described the results of satisfaction level on each dimension. The nine dimensions showed different satisfaction tendencies. Respondents tended to be satisfied with the dimensions of procedures and health workers' attitudes, while on the dimensions of time and complaints handling, respondents tended to feel merely satisfied.

Analysis of satisfaction on each dimension based on the IPM diagram was also carried out, as shown in Figure 1. It was known that the dimensions of service time, health workers' competency, infrastructure, and complaints handling were in the second quadrant. It meant that respondents had high expectations, and the perceived performance was also high, so it can be concluded that these dimensions had fulfilled the expectations and should be maintained in quality. The dimensions of requirements, procedures, costs, product type of service, and health workers' attitudes were in the third quadrant. It meant that respondents had low expectations, and the perceived performance was also low, so it can be concluded that these dimensions needed to be improved in quality even though they were not a priority.

Discussion

The study results indicated that Prolanis participants were mostly women, aged 45–59 years and diagnosed with hypertension. This majority of the characteristics of the respondents are in line with the ones found in another research.[9] The study sample was 143 hypertensive patients participating in Prolanis dominated by female participants.[9] Research conducted in Bandung[10] on 112 elderly Prolanis participants also showed that the participants diagnosed with hypertension had the highest number compared to patients

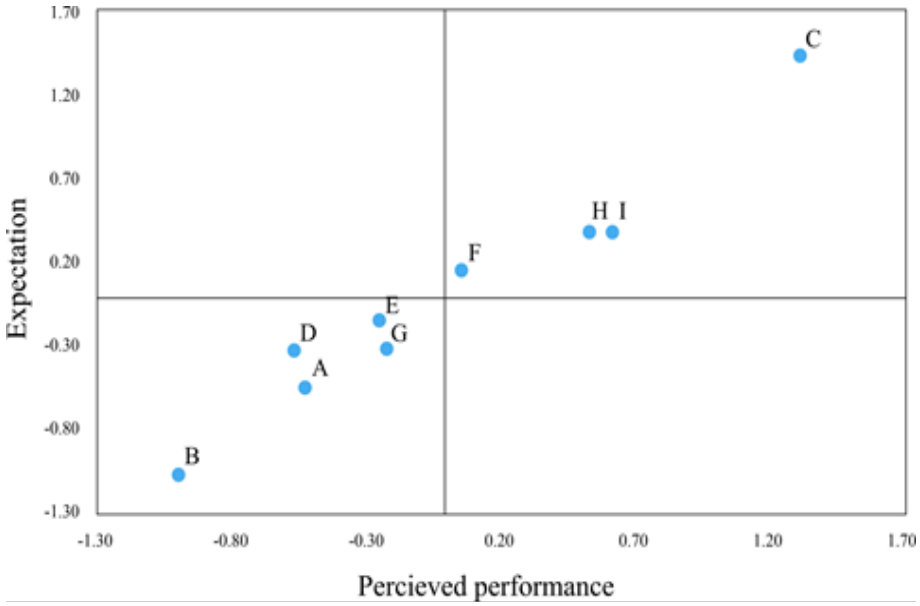

Figure Importance-Performance Matrix

Note: A= Dimension of requirements, B= Dimension of procedures, C= Dimension of service time, D= Dimension of costs, E= Dimension of product type of service, F= Dimension of health workers' competency, G= Dimension of health workers' attitudes, H= Dimension of infrastructure, I= Dimension of complaints handling.

with other chronic diseases.

It was known that respondents in this study were more dominant in being merely satisfied with the services provided. This description is identical to another study results conducted on 90 Prolanis participants using the SERVQUAL instrument at Puskesmas in East Java.[11] The study showed that 73.64% of Prolanis participants were merely satisfied with the services they received.[11] Different presentations were shown in Sleman Regency.[12] Research respondents of this study had low satisfaction.[12]

The IPM diagram in this study portrayed the dimensions of requirements, procedures, and product type of service as dimensions that had low expectations from the respondents. It was confirmed by the results shown in Table 2 that respondents' satisfaction on these dimensions had not been achieved. Different results were found in another research on the satisfaction of Prolanis participants using the Patient Satisfaction Questionnaire Short Form (PSQ-18) instrument in the accessibility category as the aspect that already had the highest satisfaction.[9]

The IPM chart showed that the cost dimension has a low expectation and perceived performance level. It was an interesting discussion because Prolanis is a program specifically held for the contribution assistance recipients of the national health insurance. Based on the Presidential Regulation of the Republic of Indonesia number 82 of 2018 concerning health insurance, contribution assistance recipients of the national health insurance were not charged independently for the health insurance contributions because the government had paid them.[13] The low level of reality of respondents in this study on the costs dimension was inversely proportional to the convenience provided by the government, especially costs is one of the essential aspects in NCDs prevention attempt. Policies regarding practical, reasonable, and cost-effective prices can play a role in controlling NCDs risk factors, such as unhealthy diet and reducing inequality.[14] This was demonstrated by the satisfaction level of the respondents in the study in Mexico,[15] where most of the patients with diabetes, hypertension, and/or dyslipidaemia, as the participants, stated that they were satisfied with the services due to access to free or low-cost healthcare.[15]

Table 2 showed that the satisfaction on the dimensions of service time and health workers' competency had not been achieved. The IPM analysis also showed that the perceived performance of the Prolanis participants was still low. Thus, both dimensions require quality improvement. Respondents in another study showed different perceptions.[9] Respondents

showed positive responses to the time service and technical quality of health workers.[9]

The IPM diagram showed that the perceived performance was still low on the dimension of health workers' attitudes. Hence, this dimension can still be improved in quality. Different results were shown in the study conducted in Bandung[10], the dimensions of SERVQUAL satisfaction, which were related to the attitude of health workers, namely assurance, responsiveness, and empathy, had been well perceived by the respondents. This statement was supported by another study results that health workers' interpersonal skills were the category with the highest level of patient satisfaction.[16] A study in Pakistan[17] also highlighted the importance of skill development of health workers in general clinics for diabetes. In fact, previous study stated that patients' satisfaction on patients-physicians relationship appeared to be associated with medication adherence in hypertension patients, although it would take a long time to get the relationship between the doctor and the patient through a study in Iran.[18] Also, a research result in Poland[19] revealed that the patient's adherence and self-care will enhance if they are satisfied with the physician's communication capability.

The location of the infrastructure dimensions in the IPM diagram showed that the quality needs to be maintained. Different results were presented in the results of a study in Bogor.[20] The facilities at the Puskesmas in Tegal Gundil in Bogor City, which included supporting equipment in carrying out the activities of the Prolanis club, were still lacking.[20] This fact was reinforced by another research that poor facilities in the health facility decreased the satisfaction of the patients.[15]

The IPMs diagram showed the position of the complaints handling dimensions in quadrant II. It had an interpretation that the perceived performance is in line with the high expectations of the respondent. Dissimilar results were shown in the research conducted in Yogyakarta[12] that the responsiveness aspect was not yet good. It needed to be improved in quality to achieve the satisfaction of hypertension and diabetes mellitus patients with Prolanis services. This study also concludes that aspects other than responsiveness also required quality development because the satisfaction felt by Prolanis participants is still low.[12]

This research has some limitations. Most Puskesmas had just returned to hold face-to-face meetings of Prolanis club after the activities have been suspended due to the pandemic of COVID-19. This situation caused respondents to fill out the CSI-29 questionnaires based only on services received when the Prolanis activities were held again and based on experience before the COVID-19 pandemic, not based on experience receiving Prolanis services regularly.

The Puskesmas organizers and policy makers can utilize the study results of the Prolanis participants' satisfaction to evaluate and improve the quality of Prolanis services. This study also stated that the dimension of requirements, procedures, costs, product type of service, and health workers' attitudes need to be improved in quality. The study is also expected to strengthen the theory regarding the CSI-29 application as a measuring instrument for customer satisfaction assessment. Further research needs to be done to analyze the relationship between the incidence of hypertension and the variables of sex, age, and recent education of Prolanis participants at the Puskesmas in Bogor City.

In conclusion, most of the respondents are merely satisfied with Prolanis services at the Puskesmas in Bogor City. The dimension of quality-of-service time, health workers' competency, infrastructure, and complaints handling need to be maintained to gain patients' satisfaction. The use of IPM as the analytical method can assist health service providers in identifying the root cause of the dimension of satisfaction that has not been achieved and the actions needed to improve patient satisfaction.

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