



# Patient Satisfaction in HIV Counseling and Testing Services with the Importance-Performance Analysis (IPA) and Customer Satisfaction Index (CSI) Method

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## Abstract

Provider Initiated HIV Testing and Counseling (PITC) is an HIV test offered by health professionals to patients as an initial diagnosis of HIV and a facility for obtaining HIV medication. Patient satisfaction helps assess the communication pattern between the client, the healthcare provider, and the healthcare manager. This study was conducted at 30 public health centres with 120 patients to determine patient Satisfaction concerning PITC, assessed through Customer Satisfaction Index (CSI) analysis. Then, the public health centre prioritized the importance-performance analysis (IPA) method in a Cartesian chart. The result obtained a 66,73% CSI value, meaning the PITC offered was relatively not good. The education level of patients and HIV test results correlate with patient Satisfaction with PITC services. Health professionals could optimize PITC service by improving the service quality by explaining that the HIV test was confidential, asking for the patient's consent before taking any action, and defining the phase of HIV growth thoroughly until it converted into AIDS

**Keywords:** HIV Counseling and Testing; Patient Satisfaction; Importance-Performance Analysis (IPA); Customer Satisfaction Index (CSI); Health Professionals

## Introduction

Indonesia has recorded progress in HIV control implementation in recent years. Various services for HIV patients have rapidly grown in line with the increasing number of patients who utilize them (Kemenkes RI, 2017). The role of health professionals (doctor, nurse, and midwife) is becoming more crucial since many PLHA need health service and their status are temporarily unknown. Since 2010, Indonesia has implemented PITC to increase HIV counseling and test coverage. Provider Initiated HIV Testing and Counseling (PITC) is an HIV test offered by health workers to patients registered in the healthcare facility. PITC is an initial diagnosis of HIV and a facility for obtaining HIV medication to determine the medical or clinical action needed relating to the Antiretroviral (ARV) treatment. The step is impossible without knowing the HIV status (Kemenkes RI, 2010). PITC has more

comprehensive coverage than the VCT and is expected to avoid late diagnosis.

Until September 2020, there have been 409.857 cumulative cases of HIV reported in Indonesia and 127.873 cases of AIDS(Kemekes RI, 2020). Based on the result of the HIV test, 9.165 from 876.697 people tested positive, and 7.519 have acquired medication for HIV(Kemekes RI, 2020). PITC implementation in public health centers uses the cross-program method, which involves all health workers. The health workers may have different medical education backgrounds and experiments in handling HIV cases. However, there is a certain standard set for them that they could implement the PITC with the same procedure.

The ideal PITC service will provide satisfaction for the patients. Patient satisfaction is one of the main criteria for evaluating the quality of a health service. It is described as the patient's impression of the health service they have obtained after comparing it to their Expectation (Onyeonoro et al., 2015). Patient satisfaction can identify the service requirement to improve satisfaction further. It has been proven to influence health service use. It predicts future health-related behavior, such as whether the patient will recommend the healthcare provider to others. Patient satisfaction is a valuable measurement in assessing the communication pattern between clients, healthcare providers, and healthcare managers (Onyeonoro et al., 2015).

There are many studies concerning patient satisfaction with HIV service. This study is aimed to determine the patient's satisfaction after being offered to take the HIV test through Customer Satisfaction Index (CSI) analysis. Then, a priority was set through Importance-Performance Analysis (IPA) method depicted in a cartensius diagram.

## Method

### Participants and Procedure

The study concerning patient satisfaction with the PITC implementation at the public health centre in Jember Regency was descriptive quantitative research. The study was conducted in Jember Regency, East Java, Indonesia. There were 31 sub-districts with 50 public health centres in Jember Regency, East Jawa, Indonesia. The study samples were 120 patients who got HIV tests offered at 30 public health centres from July to November 2021. The inclusion criteria for this study were patients who visited the public health centre in Jember, aged at least 18 years old or had been married, and could read and write; at the time of the study, respondents were being offered PITC and following the pre-test process until the result announcement or post-test.

Assessment of patient satisfaction with PITC service included the health professionals' ability to maintain relationships with patients during the PITC and the patient's satisfaction concerning the health worker's ability to perform PITC. In addition, respondents were asked to assess their level of importance and performance. The assessment used the Likert scale to measure the consumer's preference: Very Important 5, Important 4, Fairly Important 3, Less Important 2, Not Important 1. Meanwhile, the performance level assessment used the following criteria: Very Satisfied 5, Satisfied 4, Fairly Satisfied 3, Less Satisfied 2, Not Satisfied 1.

Before answering the questionnaire, an explanation was given to the patients concerning the study objectives and data collection method, followed by the signing of informed consent by respondents.

## Data management and analysis

Data collected from the observation were transcribed and reduced to obtain certain data based on the needs. The reduced data was then coded, where they were put into groups based on the codes. Next, the data were analyzed descriptively to obtain the description of each indicator. The description was later presented in the form of percentage and frequency. Finally, the processed patient satisfaction data was introduced through the Customer Satisfaction Index (CSI) calculation and Cartesian Importance Performance Analysis (IPA) chart.

## Ethics approval

Universitas Airlangga Faculty approved the study protocol of Dental Medicine Health Medical Research Ethical (Reference Number: 326/HRECC.FODM/VI/2021). All respondents were asked to provide written informed consent. They could withdraw at any time without any influence on their current treatment

## Results and Discussion

### Results

The characteristics overview of the research respondents was obtained from analyzing the data of 120 patients at 30 public health centres who took the HIV pre-test and post-test. The data was served in the following table1. The characteristics of patients receiving PITC (Provider Initiated HIV Testing and Counseling) service at the public health centres in Jember Regency, East Jawa, Indonesia

This study's number of public health centres was 30 of 50 across 31 sub-districts. The number of samples taken in each public health centre was varied since, when data was collected, several public health centres were unavailable due to the pandemic situation. Therefore, those public health centres might be used for COVID patient care, and the non-COVID patient should choose other places to obtain healthcare. Besides, the number of health workers was limited because some were assigned to handle the vaccination program or scheduled a specific shift to get enough rest. Some others were self-isolated due to the covid-19 infection. Therefore, there was not much PITC offered at the time when this study was ongoing.

In this study, there were various characteristics of the patients who obtained the PITC service, which can be seen in table 1. The characteristics of patients receiving PITC (Provider Initiated HIV Testing and Counseling) service at the public health centres in Jember Regency. Regarding the age category, 55% of respondents were from the 21-30-year-old variety. According to the sex category, most respondents were female, who occupied 81,67% of the total respondents. In the last education category, 40% of the respondents were high school graduates. Based on Marital status, 88,33% of the respondents were married. From the occupation category, 61,67% of the respondents were housewives. If we pay attention to the HIV test result, 94,17% of respondents were non-reactive. 78,33% were from the non-risk group from the patient's group category. Meanwhile, from the pregnancy condition category, most respondents were pregnant women, who occupied 66,67% of the total respondents.

**Table 1.**

The characteristics of patients receiving PITC (Provider Initiated HIV Testing and Counseling) service at the public health centres in Jember Regency

Patient Characteristics	N (120)	% (100)
<b>Name of Public Health Center</b>		
1 Ajung	3	2,50
2 Bangsalsari	2	1,67
3 Banjar sengon	1	0,83
4 Cakru	5	4,17
5 Gladak pakem	4	3,33
6 Gumukmas	5	4,17
7 Jelbuk	6	5,00

<b>Patient Characteristics</b>		<b>N (120)</b>	<b>% (100)</b>
8	Jember kidul	5	4,17
9	Jenggawah	5	4,17
10	Jombang	5	4,17
11	Kalisat	2	1,67
12	Kaliwates	5	4,17
13	Karangduren	2	1,67
14	Kasiyan	2	1,67
15	Kemuningsari kidul	5	4,17
16	Kencong	5	4,17
17	Klatakan	1	0,83
18	Ledokombo	5	4,17
19	Mangli	5	4,17
20	Mayang	3	2,50
21	Nogosari	2	1,67
22	Paleran	3	2,50
23	Patrang	7	5,83
24	Puger	8	6,67
25	Semboro	1	0,83
26	Silo I	5	4,17
27	Sukowono	4	3,33
28	Sumberbaru	2	1,67
29	Sumberjambe	6	5,00
30	Umbulsari	6	5,00
<b>Age Category</b>			
1.	<20	8	6,67
2.	21-30	66	55,00
3.	31-40	34	28,33
4.	41-50	6	5,00
5.	>51	6	5,00
<b>Sex</b>			
1.	Male	22	18,33
2.	Female	98	81,67
<b>Last Education</b>			
1.	Unschooling	1	0,83
2.	Primary	24	20,00
3.	Junior High School	29	24,17
4.	Senior High School	48	40,00
5.	Higher Education	18	15,00
<b>Marital Status</b>			
1.	Married	106	88,33
2.	Unmarried	12	10,00
3.	Widow/widower	2	1,67
<b>Occupation</b>			
1.	Housewife	74	61,67
2.	Administration Staff/ Household Personal Assistant/ factory workers / Salesperson/ Saloon Worker/ Busker	11	9,17
3.	Entrepreneur/ Merchant/Farmer	28	23,33
4.	Teacher	3	2,50
5.	Sex Worker	3	2,50
6.	Unemployed	1	0,83
<b>HIV Test Result</b>			
1.	Non-Reactive	113	94,17
2.	Reactive	7	5,83
<b>Patient Group Category</b>			
1.	Non-risk Group	94	78,33
2.	Gay	1	0,83
3.	Partner with High Risk,	2	1,67
4.	TB patient,	12	10,00
5.	Sex worker	3	2,50
6.	Sex worker's client	2	1,67
7.	Trans-sexual	6	5,00
<b>Pregnancy condition of the patient/patient's partner</b>			
1.	Not in this condition (male)	22	18,33
2.	Pregnant	80	66,67

Patient Characteristics	N (120)	% (100)
3. Not in a pregnancy	18	15

Based on the data in Table 2, Customer Satisfaction Index (CSI) analysis could be used to determine the level of patient satisfaction by using the score criteria such as in Table 2. Based on the CSI score calculation, the result showed 66,73, where a CSI score between 65,00-76,60 means "not good." Therefore, the score indicates the service attributes provided by the health workers during the PITC implementation were relatively poor.

**Table 2.**  
 Patient's satisfaction in receiving PITC (Provider Initiated HIV Testing and Counseling) service at Public Health Centers in Jember Regency

No	Indicator	Expectation (MIS)	Performance (MSS)	WF (Weight Factor)	WS (Weight Score)
1	Health professionals' opens the pre-HIV test counselling and introduce themselves to the patients	4,49	3,48	5,74	19,98
2	The health professionals explain that the HIV examination is confidential	4,41	3,30	5,63	18,58
3	The health professionals' asks for the patient's reason why they accept/reject the HIV test	4,13	3,30	5,27	17,39
4	Health professionals explain the HIV test while asking for the patient's consent by signing a document before conducting the HIV test	4,37	3,32	5,58	18,50
5	Health professionals explain the HIV transmission process and behaviors that could cause the transmission.	4,47	3,58	5,71	20,40
6	Health professionals explain the growth of HIV within someone's body until it converted into AIDS	4,38	3,19	5,60	17,87
7	Health professionals explain the preventive steps against HIV	4,47	3,53	5,71	20,18
8	Health professionals demonstrate the use of condoms to prevent HIV for those sexually active	4,22	2,76	5,39	14,89
9	Health professionals explain the definition of opportunistic infection that could hit the patient.	4,22	2,82	5,39	15,17
10	Health professionals give an example of HIV comorbidities (Opportunistic Infection) which could hit the patient.	4,23	2,87	5,40	15,47
11	Health professionals explain the benefit of HIV test	4,43	3,58	5,66	20,29
12	Health professionals explain the procedure for HIV test	4,43	3,41	5,66	19,30
13	Health professionals' explains the sign/symptoms perceived by the patient and their relation to the upcoming HIV test.	4,24	3,17	5,42	17,17
14	Health professionals explain the possibility of the HIV test result that will come out	4,40	3,60	5,62	20,23
15	Health professionals' had given sufficient explanation concerning the risk and impact of accepting the HIV test	4,31	3,42	5,51	18,81
16	The patient signs the informed consent agreement voluntarily without any coercion	4,28	3,23	5,47	17,64
17	Health professionals inform the HIV test result	4,56	4,23	5,82	24,60

No	Indicator	Expectation (MIS)	Performance (MSS)	WF (Weight Factor)	WS (Weight Score)
18	Health professionals' provides suggestion/reference concerning the HIV test result	4,26	3,16	5,44	17,18
<b>Total</b>		78,29	59,93	<b>WT</b>	333,64
<b>Average</b>		4,35	3,33	<b>CSI</b>	<b>66,73</b>
<b>Interval Score of Conversion Public Satisfaction Index</b> (Pedoman Penyusunan Survei Kepuasan Masyarakat Unit Penyelenggara Pelayanan Publik/ Guidelines for Compiling a Community Satisfaction Survey for Public Service Providers, 2017)			<b>Performance of Unit Services</b>		
88,31- 100,00			<b>Excellence</b>		
76,00- 88,30			<b>Good</b>		
65,00- 76,60			<b>Poor</b>		
Description: MIS (Mean Importance score) = Average value of expectation MSS (Mean Satisfaction Score ) = Average value of Performance WF (Weight Factor)= MIS/ΣMIS X 100 WS (Weight Score) = WF X MSS WT (Weight total) = Σ WS CSI = WT/ maximum score on the Likert scale					

To improve the PITC service quality, we made a cartesian chart of priorities, as shown in Figure 1. The cartesian chart of Patient's Satisfaction on PITC Service at Public Health Centers in Jember Regency

a. Quadrant 1

It was considered the most important aspect according to the patients. However, the service performance had not yet met the patient's expectations. Indeed, this would cause complaints or dissatisfaction among the patients. The aspect that needed improvement were indicators number 2, 4, and 6, where it explained that the HIV test was confidential and was under the informed consent in the form of signing before taking action, as well as explaining the HIV growth within someone's body until it converted into AIDS which was quite important information for the patients. Therefore, all health service aspects in this quadrant became the priority in improving performance.

b. Quadrant 2

It was considered an essential aspect for the patients, but the service performance provided by the public health centers had exceeded the average score of assessment concerning the health service performance; in other words, it mostly satisfied the patients. Indicators 1, 5, 7, 11, 12, 14, and 17 were included in this quadrant. The indicators were about: opening counseling with a self-introduction to the patients, explaining the HIV transmission and any behavior which has a high risk of getting exposed to HIV, explaining the steps to prevent HIV, and the last was informing the result of the HIV test. These aspects shall be maintained and then slowly improved so that the health service performance assessment could be equal to or even higher than the health service importance assessment (Irawan, 2004).

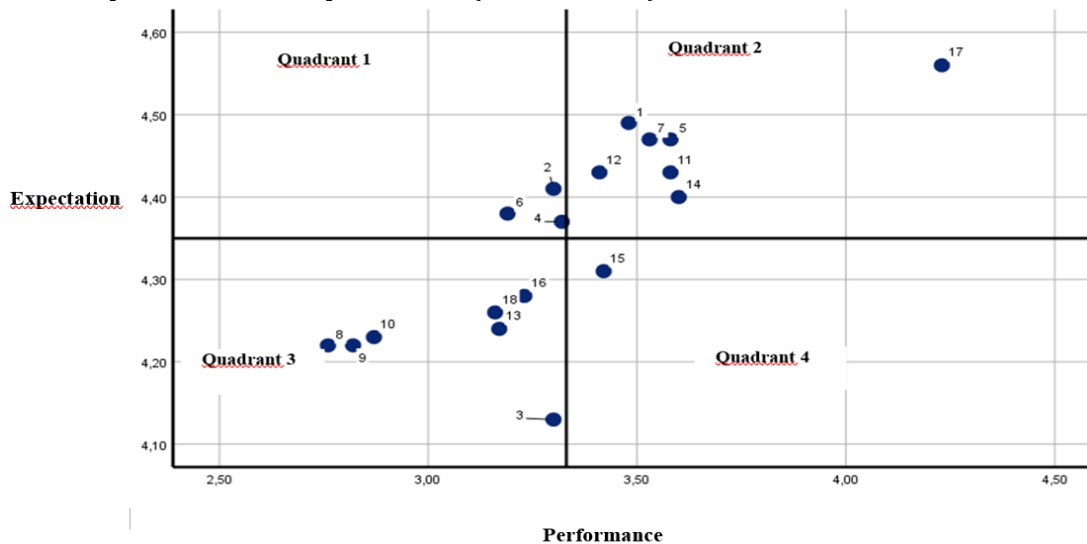
c. Quadrant 3

These were the relatively less important aspects according to the patients. The health service performance was insufficient since the score was below the average of the health service assessment. Included in this quadrant were indicators 3, 8, 9, 10, 13, 16, and 18 that explained: the reason to approve/reject the HIV test, demonstrated HIV prevention steps for those sexually active, clarified the definition and gave an example of opportunistic infection to HIV patients, giving information related to the sign/symptoms occurred to the patients and its relation to the upcoming HIV test, signing informed consent voluntarily, and giving suggestion/reference concerning the HIV test result of

the patient. Those health services shall be improved; the priority is below quadrant 1(Irawan, 2004).

d. Quadrant 4

This service aspect was considered less important to the patients since the health service performance had exceeded the average health service performance assessment score. Moreover, according to the analysis, included in this quadrant was indicator number 15, giving an adequate explanation concerning the risk and impact of accepting the HIV test. Therefore, this aspect was not necessary, and it became relatively superfluous. Thus, it was not prioritized for improvement (Irawan, 2004).



**Figure 1.** The cartesian chart of Patient's Satisfaction on PITC Service at Public Health Centers in Jember Regency, East Jawa, Indonesia

Cross tabulation results of patient characteristics with patient Satisfaction in PITC services. This research presents cross-tabulation results of patient characteristics with patient Satisfaction in PITC services. The data was served in the following table 3. Table 3 explains that the education level of patients and HIV test results are related to patient satisfaction with PITC services.

**Table 3.**

Cross tabulation results of patient characteristics with patient satisfaction in PITC services

Patient characteristics		Patient satisfaction in PITC services			Asymptotic Significance
		Excellence	Satisfied	Unsatisfied	
<b>Sex</b>	Male	3	9	10	0,321
	Female	5	49	44	
<b>Last Education</b>	Unschool	1	0	0	0,000
<b>Education</b>	Primary School	2	9	13	0,046
	Junior High School	0	16	13	
	Senior High School	1	28	19	
	Higher Education	4	5	9	
<b>HIV Test Result</b>	Reactive	1	6	0	0,046
<b>Patient Category</b>	Non Reactive	7	52	54	0,335
	Risk Patient	3	14	9	
Non-risk Patient		5	44	45	

**Discussions**

Patient satisfaction is essential for assessing the quality of patient care services (Padhiar & Karia, 2020). This study discussed patient satisfaction after receiving PITC offered by health professionals such as doctors, nurses, and midwives at the public health center in Jember Regency, East Jawa, Indonesia. Assessment satisfaction is considered a different expectation

and experience, separately influenced by socio-demographic characteristics. For example, people with an educational background with a higher level of education would also have the higher expectation of the service(Suvorova et al., 2015).

Based on the calculation result, the obtained CSI score was 66,73, where CSI score between 66,00-80,99 means "Poor." The score means the service attributes provided by the health workers during PITC were generally not good. Poor service causes patients to be dissatisfied with the PITC services provided. Explaining the PITC service provided by the health workers was very important in increasing patient satisfaction. A health worker who can offer a clear, simple, and accurate explanation concerning the diagnosis and the patient's health condition will give higher satisfaction to the patient(Tran et al., 2019). Explaining the PITC helps patients to improve their health status (Tran et al., 2019).

Besides, this study found that explaining the HIV test confidentiality to the patient could make them feel secure knowing their privacy was protected. Another study said that confidentiality, communication, and respect were highly valued. Respecting privacy had a positive correlation with patient satisfaction. Improving care, privacy, and confidentiality has increased compliance visits (Miller et al., 2014). The numerous stigmas on PLHA cause them to feel afraid to take the HIV test. Providing security to the patient by asking for approval in the form of a signature before taking their blood sample to test was essential. Building good relationships with the patients will give them satisfaction and impact their compliance with medication (Tran et al., 2019). In maintaining the relationship with the patients, the health workers should make the patients feel recognized privately, and it was considered a form of respect from the service provider (Flickinger et al., 2013). Concern for the patient as an individual can be manifested through actions such as respecting the patient's autonomy, listening carefully and putting ourselves in their point of view, and explaining accurately. Besides, during a medical check-up, it is better to provide regular consultation, clarify their health status, and respond to their request(Flickinger et al., 2013). In offering the HIV test to the patients, the health workers shall prioritize the explanation concerning the initial diagnosis to the HIV patient status. If the patient feels satisfied with this service, it will be easier to suggest the follow-up action required for the patient (Donnell-fink et al., 2011). In this research, we found that the person's educational status will be very helpful in understanding the importance of an HIV test and what to know when testing for HIV. the academic level will contribute to assessing satisfaction at the PITC. Another study stated that education had nothing to do with patient Satisfaction at the time of HIV testing<sup>6</sup>. This study says there is a relationship between the patient's HIV test results and patient satisfaction. The patient is very concerned about the results of the HIV test that has been done. Therefore, explaining the results of the HIV test is the most important in the future.

Patient satisfaction is an essential quality indicator to measure the success of the service delivery system. It allows the organization managers and policymakers to understand better patient views and perceptions and the extent of their involvement in improving the quality of care and services (Padhiar & Karia, 2020).

## **Conclusion**

It was concluded that, overall, the PITC service provided by the health workers was unsatisfying. However, the PITC could still be optimized by improving the service needed for the patients, such as explaining that the HIV test is confidential, asking for their approval by signing a document before taking any actions, and demonstrating the HIV growth within someone's body until it converted into AIDS.

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