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# **Strengths, weaknesses, opportunities, and threats (SWOT) Analysis of Provider Initiated HIV Testing and Counseling (PITC) Implementation of Patients During the Covid-19 Pandemic at Primary Health Centers (Puskesmas) Indonesia**

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**Abstract—**

**Background:** Primary Health Centers (Puskesmas) are the first places to go for people to obtain HIV testing and counselling. However, one of the major problems faced during the Covid-19 pandemic was reluctance to get tested due to fear of contracting Covid-19.

**Objective:** The research was to evaluate with SWOT (Strengths, weaknesses, opportunities, and threats) in implementing HIV Counseling and Testing services during the COVID-19 pandemic in Jember Regency Indonesia.

**Methods:** This research was a qualitative study. The data was collected through in-depth interviews with the health workers who responded to HIV Counseling and Testing. Sample conducted this research in 30 Puskesmas at Jember Regency with 30 participants to identify the SWOT on the PITC (Provider Initiated Testing and Counseling) in several puskesmas in Jember Regency.

**Results:** The result is presented as a SWOT to formulate the proper strategic planning. The availability of health workers and reagents for HIV testing at puskesmas is essential in establishing a patient's HIV status. However, there were several limitations to implementing PITC, such as a lack of knowledge about HIV.

**Conclusions:** Providing training concerning PITC, properly wearing PPE (Personal protective equipment), enhancing health promotion, and increasing covid-19 vaccination coverage can prevent Covid-19 transmissions and raise HIV counselling and testing services coverage in the Jember regency.

**Keywords---**PITC, HIV/AIDS, Covid-19 pandemic, SWOT analysis, Primary Health Centers.

## Introduction

Early detection of a person's HIV status is an appropriate way of prevention and response. To determine a person's HIV status with HIV, activities such as counselling and testing are carried out in health facilities such as Primary Health Centers (Puskesmas). At the Puskesmas, HIV counselling and testing services are initiated by health professionals, called Provider Initiated HIV Testing and Counseling (PITC)(Kemenkes RI, 2017b). PITC services get more patients for HIV tests than Voluntary Counseling and Testing (VCT) services. Puskesmas shall strengthen their prevention, detection, and response roles according to its authority as the first-level health service facilities (Kemenkes RI, 2020). Health service facility stands at the front line facing the health crisis due to Covid-19. Puskesmas, which has become a Primary health service provider in its respective working area, has an increasingly important role in counter-measuring Covid-19 and other diseases within the community.

During the Covid-19 pandemic, the public visit rate to the Puskesmas drops. People are reluctant to visit Puskesmas for a health service since they are worried about being infected by Covid-19. The problem causes the health program coverage in Puskesmas does not meet the provided Minimum Service Standard. The issues during the COVID-19 pandemic in providing HIV Counseling and Testing services are that HIV AIDS service coverage rates have decreased by an average of 20.54% compared to 2019 (Dinkes DIY, 2020). A total of 27.2% of health workers reported that their job was diverted for Covid-19 services (Mukhi and Medise, 2021), the health workers are exposed to Covid-19, and since the number of workers is limited, the health centres are forced to go lockdown for 14 days. Consequently, the patients are sent to other health facilities (Trisanti and Kulsum, 2020).

Puskesmas is an organization needing strategic planning. Strategic planning is a way to help an organization be more productive by assisting the human resource allocation to reach the goal (GÜREL and TAT, 2017). External and internal analysis are processes of strategic management commonly known as SWOT analysis. Based on the background and explanation above, this study aimed to evaluate the implementation of HIV counselling and testing during the covid-19 pandemic at Puskesmas in Jember Regency Indonesia using SWOT analysis.

## Method

This research is qualitative. This study was conducted on health professionals (doctors, nurses, midwives) who offer HIV tests. Sample conducted this research in 30 health centres randomly selected from 50 health centres in Jember Regency, East Java, Indonesia. The number of health professionals participating in this study was 30 who provided PITC services at the Puskesmas.

The data were taken for five months in a pandemic period. The study period was from July 2021 to November 2021. Participants consisted of 3 doctors, 20 nurses, and seven midwives. Participating health workers are health workers who provide HIV testing services and are also in charge of the HIV program. In brief, the data collection techniques used were observation, in-depth interviews, and document study. The data were collected through in-depth interviews with the health workers who responded to the HIV Counseling and Testing implementation in the public health centres at Jember Regency. In addition, this study uses open-ended questions, such as questions about what obstacles are encountered in HIV testing services during the COVID-19 pandemic and questions about what efforts are being made to increase the number of HIV test coverage in the community.

The analysis technique in this study was SWOT analysis. SWOT Analysis is a tool for organizations' strategic planning and management strategies (GÜREL and TAT, 2017). SWOT can use effectively to build organizational strategy and competitive strategy. In this research,

SWOT analysis is used to evaluate the 'strengths,' 'weaknesses,' 'opportunities,' and 'threats' involved in Puskesmas activities.

Before answering in-depth interviews, participants explained to the patients the study objectives and data collection method, followed by the signing of informed consent by the respondents. 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 can resign at any time without affecting their current treatment.

## RESULTS:

In total, respondents included 30 health professionals in the study concerning the implementation of PITC. The health professionals involved in this study are those who work in the Puskesmas. The majority of health professionals were female (66,67%). The majority age of the health professionals sample was 35-44 years (53,33%); Most health professionals have a diploma degree in health science (70,00%). Most health professionals have 11-20 years of work experience (46,67%). 66,67% of health professionals are nurses. 73,33% of the health professionals have never attended training on PITC/VCT. Table 1 shows the demographic characteristics of health professionals

Table 1  
shows the demographic characteristics of health professionals

Demographic Characteristics of health professionals	N	%
<b>Gender</b>		
Male	10	33,33
woman	20	66,67
<b>Age</b>		
25-34	8	26,67
35-44	16	53,33
45 - 54	4	13,33
55 ≤	2	6,67
<b>Last Education Status :</b>		
3-year diploma	21	70,00
bachelor	5	16,67
medical professional education	3	10,00
master	1	3,33
<b>Profession</b>		
doctor,	3	10,00
nurse	20	66,67
midwife	7	23,33
<b>length of working</b>		
1-10 years	11	36,67
11-20 years	14	46,67
21-30 years	3	10,00
>30 years	2	6,67
<b>Training on HIV</b>		
never training about HIV	22	73,33
ever training about HIV	8	26,67

### Strengths and weaknesses of HIV Counseling and Testing implementation during the covid-19 pandemic in Jember Regency

Strengths and weaknesses are internal factors and attributes of the Puskesmas. In this case, strength refers to a positive, exciting, and creative characteristic (GÜREI and TAT, 2017). On the other hand, weakness within an organization is an aspect where the organization is viewed as less effective and efficient than its competitors (GÜREI and TAT, 2017). In this case, weakness means something unfavourable compared to others or, in other words, a negative characteristic.

A summary of the result of in-depth interviews and observations concerning the strengths and weaknesses can be seen in Table 2.

Table 2.

Strengths and weaknesses of HIV Counseling and Testing implementation during the covid-19 pandemic in Jember Regency

Strengths PITC	Weaknesses PITC
1. Puskesmas has a proper building.	1. If there is only one or a limited amount of human resources, then the workers are infected by covid-19 and shall conduct self-isolation. Puskesmas service will be closed down.
2. Puskesmas is supported by an auxiliary health centre (Puskemas pembantu), and a public maternity centre (polindes) spread across its working area.	2. There is a constraint to reaching the patients during a pandemic, such as pregnant women living far from Puskesmas.
3. The availability of human resources such as a doctor, nurse, midwife, and medical analyst.	3. Lack of knowledge of the medical workers concerning HIV counselling and testing.
4. The availability of Personal Protective Equipment in Puskesmas.	4. The medical workers do not submit the HIV counselling and testing form on time. Therefore, that report on HIV AIDS Information System (SIHA) shall be postponed.
5. The availability of a team responsible for the HIV counselling and testing implementation	5. The leading Puskesmas only conduct HIV counselling and testing in Puskesmas Sumber Jambe.
6. The availability of HIV counselling and testing implementation SOP	6. The awareness of using Personal Protective Equipment is relatively low.
7. The availability of reagents for HIV examination	7. Sometimes, HIV test result reading is not conducted on the same day.
8. The availability of mobile Voluntary Counseling and Testing VCT to reach the people who live far from Puskesmas	8. Sometimes, the negative HIV test result is not informed to the patient.
9. During the pandemic, Some Puskesmas trained their regional midwives to carry out HIV tests so that health providers could do pregnancy check-ups outside the leading Puskesmas.	9. Pre-test information is not always provided.
	10. Informconset is not always provided for all patients.
	11. Not all Puskesmas provide an assessment form for those denied taking the HIV test.

Strengths PITC	Weaknesses PITC
	<ol style="list-style-type: none"> <li>12. HIV pre-test does not always utilize Communication, Information and Education (KIE) media.</li> <li>13. Each patient service shall be recorded and kept in a medical record file. However, the HIV Counseling and Testing service is marked separately.</li> <li>14. The limited amount of Communication, Information, and Education (KIE) media provided.</li> <li>15. There is redundancy in HIV patient data since the patient also takes an HIV test at another place.</li> </ol>

**Opportunity and threat on HIV Counseling and Testing implementation during the covid-19 pandemic in Jember Regency**

Opportunities and threats are external factors and attributes of the environment. An opportunity means a suitable situation or condition to conduct a specific activity. It will positively impact the organization by improving the quality of a service provided, depending on the environmental analysis results. A threat is a situation or condition that could harm an activity's actualization. Threats will hinder the success of an organization and will cause losses.

A summary of the results from in-depth interviews and observations concerning the opportunity and threat can be seen in Table 3.

Table 3.

Opportunity and threat on HIV Counseling and Testing implementation during the covid-19 pandemic in Jember Regency

Opportunity PITC	Threat PITC
<ol style="list-style-type: none"> <li>1. Support from the integrated healthcare centre (posyandu) provides information concerning HIV Counseling and Testing for pregnant women.</li> <li>2. They are utilizing social media to provide health services.</li> <li>3. Most people are familiar with using a smartphone to access any information related to health topics.</li> <li>4. The public has an awareness of improving their health status.</li> </ol>	<ol style="list-style-type: none"> <li>1. The working area of a Primary health centre (puskesmas) is relatively broad, and some regions are isolated from internet service, which becomes an obstacle to coordination.</li> <li>2. HIV is considered taboo among societies, and it creates stigma and discrimination.</li> <li>3. Some isolated regions have inadequate road access, which hinders societies from accessing health services.</li> <li>4. A society with improved knowledge will demand better service quality.</li> <li>5. Sometimes the patient does not come clean to the health workers concerning their HIV history.</li> <li>6. Public transportation, which is used to visit the health service facility, is not always available.</li> <li>7. The covid-19 pandemic is not over yet.</li> </ol>

## HIV Counseling and Testing implementation during the covid-19, using analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT).

Table 4. shows strengths - opportunity strategy and weaknesses - opportunity strategy in; some techniques can use to improve the performance of health services at Puskesmas.

Table 4.

Strengths - Opportunity Strategy and Weaknesses - Opportunity Strategy of HIV Counselling and Testing implementation during the covid-19 pandemic in Jember Regency

Strengths - Opportunity Strategy	Weaknesses - Opportunity Strategy
1. Providing training for the integrated healthcare centre (Posyandu) cadres in providing accurate information concerning HIV Counseling and Testing for pregnant women.	1. They are adding the health profession number to keep running the Primary health centre (puskesmas) service while some workers are isolated due to the covid-19 infection.
2. Providing training for doctors, nurses, and midwives to conduct PITC and independent HIV examinations properly.	2. Utilizing the internet media to send the HIV Counseling and Testing form to avoid delays in making the report.
3. Equipping the trained doctors, nurses, and midwives with a reagent of the initial HIV examination could conduct PITC outside the Primary health centre (puskesmas).	3. Assigning special workers for mobile VCT to reach patients living far from the Primary health centre (puskesmas). Thus, the leading public health centre (puskesmas) service will keep running and reach those living far from the Public health centre (puskesmas).
4. Management makes a work schedule for the health workers to get a proper amount of time for resting.	4. They completed informed consent when the patient agreed to take medical treatment and refused to do so.
5. Provide training on wearing Personal Protective Equipment properly at work.	5. Reviewing the health professional workload in the Primary health centre (puskesmas) and resetting each job description to maintain the Primary health centre (puskesmas) programs run well.
6. Utilizing social media to attract patients to revisit the Primary health centre (puskesmas).	6. We are storing the patient's medical record, including the HIV Counseling and Testing files, in one bundle and placing it in a high-security medical record room.
7. Management makes a visit schedule for regular patients to avoid the patient crowds, potentially transmitting covid-19.	7. Adding the number and type of Communication, Information, and Education (KIE) media is understandable for the patients.
8. Utilizing technology to create an online registration system will enable patients to choose their preferred service. For example, the health workers could arrange the number of patients in the Primary health centre (puskesmas) to prevent crowds.	
9. Management provides a well-managed online consultation service that enables health workers to suggest suitable health services to patients.	

Table 5. shows strengths - threat strategy and weaknesses - threat strategy In; some techniques can use to improve the performance of health services at Puskesmas.

Table 5.  
Strengths - Threat Strategy and Weaknesses - Threat Strategy of HIV Counselling and Testing implementation during the covid-19 pandemic in Jember Regency

Strengths - Threat Strategy	Weaknesses - Threat Strategy
<ol style="list-style-type: none"> <li>1. They are increasing the health promotion to the public concerning HIV Counseling and Testing to avoid discrimination.</li> <li>2. They are increasing the health promotion to the public concerning covid-19 prevention.</li> <li>3. We are increasing covid-19 vaccination for public coverage.</li> <li>4. Optimizing and adding public ambulances enables the public to access health services.</li> <li>5. They suggest the government and related agencies concerning inadequate road access and improving the internet access to optimize the service provided to society.</li> </ol>	<ol style="list-style-type: none"> <li>1. Completing facilities at the auxiliary Health centre integrated (Pustu), public maternity centre (Polindes), and village health care (Poskesdes) are included in the public health centre (puskesmas) working area.</li> <li>2. Optimizing the function of Health centre integrated (Pustu), public maternity centre (Polindes), and village health care (Poskesdes) included in the Primary health centre (puskesmas) working area that people living far from the leading Primary health centre (puskesmas) will still be able to access the same health service.</li> <li>3. They negotiate with and involve public figures to inform the HIV Counseling and Testing service the public to decrease stigma and discrimination.</li> <li>4. They are negotiating with and involving public figures to inform the vaccination service to avoid rejection.</li> <li>5. Fixing the referral system at the main Primary health centre (puskesmas).</li> </ol>

## DISCUSSION:

PITC (Provider Initiated Testing and Counseling) is a strategy for establishing HIV diagnosis in patients. The awareness and sensitivity of health workers in offering HIV tests to patients are essential. Educational background, length of work, and training related to HIV will increase sensitivity to HIV testing.

The availability of health workers and reagents for HIV testing at puskesmas is essential in establishing a patient's HIV status. PITC service offerings are highly dependent on health personnel. First, midwives suggested more frequent HIV tests, followed by nurses and doctors (Inghels *et al.*, 2020). Midwives more often offer HIV tests due to government regulations that require triple elimination tests (HIV, Syphilis, and Hepatitis B) in pregnant women (Kemenkes RI, 2017). Meanwhile, doctors and nurses will offer PITC to TB patients or patients who show signs and symptoms that point to HIV. During the pandemic, the guarantee of the availability of PPE supports health workers in providing services safely.

If there is a shortage of PPE, it can be seen from survey data on PPE use and data on COVID-19 morbidity and mortality. For example, based on survey data in May 2020, 87% of nurses reported having to reuse single-use masks or N95 respirators, and 27% of nurses said that they had been exposed to a confirmed COVID-19 patient without wearing appropriate PPE (National Nurses United, 2020).

Barriers often encountered in PITC captors are the lack of health professional knowledge about HIV PITC. The study findings showed six barriers, including inadequate training on PITC among healthcare providers, little practice of PITC provision, inability to appropriately counsel patients due to little knowledge, poor attitude of healthcare providers in providing PITC, shortage of healthcare providers, and little motivation and incentives among healthcare providers [10]. In addition, the pandemic caused many health centres and hospitals to be forced to lock down because health workers had to lock down. In addition, many hospitals and Puskesmas were forced to limit services because some of the staff rested, some were treated, and they had to reduce their work schedule due to the increasing burden on the hospitals where they worked (Marwa and Anaëli, 2020).

Integrated services are very supportive of the community in obtaining health services. Like during a pandemic like this, when hospitals or public health centres are forced to lock down, the public can access integrated health centres or other services under the coordination line to get health services other than treating other COVID-19 patients, such as HIV testing for pregnant women. The challenge, in this case, is the spread of fake news (hoaxes) related to covid-19 circulating on the internet, which spreads very quickly in the community. In addition, the wrong public perception of health will create obstacles to receiving health services.

The biggest threat is the stigma and discrimination received by HIV or Covid-19 patients. Stigma and discrimination cause people to be reluctant to carry out HIV or Covid-19 tests because they are worried about the stigma and discrimination. Stigma and discrimination are not only from the community but can also be obtained from health workers. Therefore, health workers can improve services for HIV patients during the Covid-19 pandemic through stress management exercises and increase knowledge about the care of HIV patients during the Covid-19 pandemic so that they are expected to be able to eliminate stigma in health services.

Being infected with covid-19 and another disease will surely burden someone's health condition called a syndemic. In this perspective, the infection of severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2), responsible for the Covid-19 pandemic, is assumed to be associated with other medical problems faced by the People Living with HIV/AIDS (PLHA) (Singer, 2010). Therefore, in a syndemic, PLHA will have more mortality risk caused by Covid-19 (Rodriguez-Penney *et al.*, 2013), (Fei Zhou. *et al.*, 2020).

Optimizing Strengths and opportunities is a step toward improving the human resource in an organization. Providing continuous training will increase the health workers' confidence. Rearranging the working schedule will help the health workers get the proper rest duration. It is an effort to suppress burnout among health workers. Although much attention has been given to the health of frontline medical workers, the pandemic will soon also compromise the services and health of mental health providers (Fish and Mittal, 2021). Health workers are vulnerable to mental health problems, especially during the pandemic. Thus, managing the stress possibility is highly required (Badrifam, Zandifar and Arbabi, 2020). Providing training concerning using PPE properly will ease the health workers since they can work safely. In the current pandemic, it is essential to improve safety at work, especially for those working at the health service facilities, such as those having direct contact with covid-19, HIV, and AIDS patients through controlling. The controlling act covers implementing safe work practices, wearing PPE correctly, and ensuring PPE availability (Utami, Sulaksmono and Triyono, 2012).



Creating an integrated Puskesmas information system with online registration is a strategy to increase strength and opportunity in an organization by utilizing technology so that patients can choose the type of service needed. With the Puskesmas information system, health workers can regulate the number of people present at the Puskesmas to not crowd. Patients' obedience to visit the health service facilities based on the schedule is another effort to suppress virus transmission. However, this pandemic interferes with a well-managed online consultation service, patients can be conducted, and the health workers will suggest the required medical assistance for the patients. Teleconsultations connect providers with the covered population, minimizing contamination and system overload. Telemonitoring tracks the evolution of suspected and confirmed cases, reassuring isolation measures, and both are supported by a robust emergency system for orientation and ambulance support. The positive observations during the implementation phase may serve as examples for other health systems and public policies (Nascimento *et al.*, 2020).

Before telemedicine, a by-phone consultation is conducted using a simple questionnaire to filter the covid-19 suspects. Those with covid-19 symptoms will be asked to delay their visit and further informed about Covid-19 [20]. Misleading information will cause panic attacks and discrimination. Therefore, we shall avoid the current situation that can break society's trust while the health service promotes a stigma that can prevent people from getting medical treatment. Another way to utilize technology is to optimize the use of social media to attract patients to visit Primary health centres (Puskesmas). Providing the correct information from the health workers and disease prevention will decrease the communicable disease frequency and severity and form a social behaviour to avoid the negative impact (Gedela *et al.*, 2020).

## Conclusion

The main conclusions of the study may be presented in a short Conclusion. Based on the result above, we concluded that we could implement HIV Counseling and Testing during the Covid-19 Pandemic at the Puskesmas in Jember Regency. The availability of health workers and reagents for HIV testing at Puskesmas is essential in establishing a patient's HIV status. However, the implementation had several limitations, such as a lack of knowledge about HIV. The use of social media by the community to access health services is an opportunity to improve health services. The biggest threat is the stigma and discrimination received by HIV or Covid-19 patients. Integrated services are very supportive of the community in obtaining health services. Providing training concerning PITC, wearing PPE properly, enhancing health promotion, and increasing covid-19 vaccination coverage can reduce the number of covid-19 transmissions and increase HIV counselling and testing services coverage in the Jember regency.

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