

Provider Initiative HIV Testing And Counseling (PITC) Skills At Public Health Centers In Rural And Urban Areas

Faiqatul Hikmah ¹⁾, Hari Basuki Notobroto²⁾, Shrimarti Rukmini Devy²⁾, Yoswenita Susindra¹⁾, Ria Chandra Kartika¹⁾, Ramadhaniah³⁾

¹ Department of Health, Politeknik Negeri Jember, Jember, Indonesia 68121

² Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia 60115

³ Faculty of Public Health, Universitas Muhammadiyah Aceh, Banda Aceh, Indonesia 23114

✉Email: faiqatul@polije.ac.id

ABSTRACT

Background: Improving the quality of HIV testing services in public health centers must be supported by the knowledge of HIV that health worker professionals must have. In PITC services, the ability of health professionals to build relationships is crucial to establishing trust and good communication with patients. Providing information about HIV will help patients make decisions about their health status. However, the PITC services provided by health workers are less than satisfactory. **Aims:** This study aims to analyze the factors associated with the PITC skills of health professionals at Indonesian public health centers in urban and rural areas. **Methods:** Observational design with a cross-sectional approach was used in this research. The sample in this study involved 120 health worker professionals, including nurses, doctors, and midwives, who implemented HIV testing, who were selected using simple random sampling based on the location of their health center. The data were analyzed using multigroup analysis in SmartPLS 3 **Result:** The knowledge of HIV positively influenced the capability of health professionals to assess HIV risk factors and PITC skills ($p = 0.011$). The capability of health professionals to determine HIV risk factors also positively influenced PITC skills ($p = 0.000$). In addition, the ability of health professionals to build relationships with patients positively influenced PITC skills ($p = 0.000$). **Conclusion:** Different variables affect health professionals' PITC skills compared to rural and urban health professionals. Learning a language that the patient understands is highly recommended in providing good service during a HIV test.

Keywords: HIV, PITC, Public Health Centers, Rural, Urban.

INTRODUCTION

One of Indonesia's Sustainable Development Goals (SDGs) is to ensure healthy lives and promote prosperity for all people of all ages by 2030. One of the ways to do this is to end the AIDS epidemic. HIV prevention and control efforts aim to achieve the Three Zero target by 2030 (Haeuser et al., 2022). The objective is to halt the spread of HIV by 2030. The program will be achieved by reducing the number of new HIV infections, reducing the number of deaths caused by AIDS, eliminating discrimination against people living with HIV/AIDS (PLWHA), improving the quality of life of PLWHA, and reducing the socioeconomic impact of HIV disease on individuals, families, and communities.

One of the steps in the prevention of HIV is to ascertain a patient's HIV status by taking a HIV test. Since its discovery in

Indonesia in 1987, the cumulative number of reported HIV cases from 2005 to March 2020 was 388,724 (67.4% of the 90% target of the estimated 640,443 people living with HIV). The cumulative number of AIDS cases from 2005 to March 2020 was 123,231. The five provinces with the highest incidence of HIV are the Special Capital Region of Jakarta, East Java, West Java, Papua, and Central Java (Kemkes RI, 2020).

Patients have the option of undergoing HIV testing voluntarily or as part of a voluntary counseling and testing (VCT) program. A patient may request HIV testing from health professionals as part of a clinical trial to facilitate a diagnosis of their health status. The provision of HIV testing by health workers is referred to as provider-initiated counseling and testing (PITC). PITC policies have necessitated the development of novel pathways for

healthcare delivery, which incorporate testing into routine procedures with minimal additional resource requirements. In reality, the implementation of PITC is highly dependent on the involvement of health professionals. They must follow the established standards in the service provision.

PITC is a crucial strategy in the global initiative to increase HIV testing. The international PITC guidelines propose that all patients attending health services in high-prevalence areas be offered a HIV test, regardless of their presenting complaint. PITC is an important method used to identify HIV-infected individuals who require medical care (Kunarisasi et al., 2022). PITC has significant implications for healthcare teams, requiring increased engagement with HIV issues, higher workloads, and the need to reorganize working patterns to incorporate HIV testing into routine care, however, in response to concerns about protecting individual rights in resource-limited clinical settings. Consent, confidentiality, and counseling (3C) should be implemented when doing PITC. It is a minimum package of HIV care, and informed consent can be guaranteed (Nuramalia & Lindayani, 2024).

HIV testing services are services available in public health centers. This program is a form of HIV prevention in the wider society. PICT in public health centers is implemented through a cross-program approach, where these activities are integrated with other health services in public health centers. For example, offering PITC is provided during integrated antenatal care (ANC) for pregnant women, the examination of TB patients, or general check-ups where the patient's condition indicates HIV. PITC involves all health professionals in public health centers, including doctors, nurses, and midwives.

In PITC services, health professionals must inform the patients about the importance of HIV testing. It is imperative that health professionals possess the knowledge regarding HIV and the PITC program. The ability of health professionals to build relationships is essential for establishing trust and good communication with patients. Information about HIV is provided through the PITC test policy by health professionals, thereby enabling patients to accept or refuse the PITC test (Nuramalia & Lindayani, 2024). In PITC services, health professionals must

inform about the importance of HIV testing. Knowledge of health professionals about HIV and the PITC program is something that health professionals must own. The skills of health professionals in building relationships with patients are essential to building patient trust and good communication. The provision of information about HIV is by the PITC test policy by health professionals so that patients have the right to accept or refuse the PITC test (Hasanah et al., 2022). Another study shows that 80% of health professionals, such as nurses, doctors, and midwives, have never attended training on PITC/VCT, which makes PITC service bad. This causes the PITC services provided by health workers to be less than satisfactory (Hikmah et al., 2023b). Another study indicate that health professionals who attend training on PITC have excellent communication opportunities in building relationships with patients during PITC services (Hikmah et al., 2023a).

This study aims to analyze factors related to the capability of health professionals in rural and urban areas to carry out HIV testing in public health centers (PHCs).

METHODS

Design

Observational design with a cross-sectional approach was used in this study. The sample consisted of health worker professionals, including nurses, doctors, and midwives, who implemented HIV tests. The sample was simple random sampling selected from 30 health centers out of 50 in Jember Regency, East Java, Indonesia. The sample in this research consists of 120 health worker professionals who provided PITC services in PHCs who participated in this study. The data were analyzed using multigroup analysis in SmartPLS 3.

Participants and Procedure

This study analyzed the factors associated with the PITC skills of health professionals in Indonesian public health centers in urban and rural areas. This study occurred in Jember Regency, East Java, Indonesia, which has 50 public health centers. The data were collected between July and November 2021 during the COVID-19 pandemic. As a consequence, the number of patients visiting PHCs declined.

The population was calculated based on the number of public health centers in Jember Regency, that is, 50 public health centers. The sample size was derived from estimating a proportion in the finite population formula. As a result, 30 samples from public health centers were obtained (Hasanah et al. 2022). The researchers selected public health centers randomly. Subsequently, for this study in each health center, a sample of four health workers was taken, consisting of doctors/nurses/boda who were tasked with conducting HIV tests. So that the total sample from 30 health centers was 120 health workers. 120 health Professionals, comprising 27 health professionals in urban PHCs and 93 health professionals in rural PHCs, administering HIV testing to patients in 30 public health centers in rural and urban areas. In this study, the characteristics of health centers were divided into rural and urban, this is because urban and rural communities have different characteristics.

Assessment

The data were collected through a questionnaire to determine the characteristics of the health professionals, such as age, sex, education level, length of employment, type of health worker profession, PITC/VCT training, knowledge, and attitude. PITC/ VCT Training was measured by answering yes-no questions. There are eight research variables consisting of two knowledge variables consisting of HIV knowledge (17 questions) and PITC knowledge (21 questions), one attitude variable (18 questions), one variable on the ability to build relationships with patients (5 questions), one variable on the ability to assess HIV risk factors (6 questions), and three PITC skills (15 questions). Meanwhile, knowledge was measured by choosing the correct answer. Furthermore, attitude was measured by selecting statements that reflect health professionals' perspectives in a four-point scale, namely strongly agree, agree, disagree, and strongly disagree.

The ability to build relationships with patients, the ability to assess HIV risk factors, and PITC skills were evaluated by

direct observation during the implementation of PITC. The researchers provided observers with training on the implementation of PITC. The observers evaluated the ability of health professionals to build relationships with patients, assess HIV risk factors, and develop PITC skills.

Before filling out the questionnaire, the health professionals provided the patients with an explanation of the objectives of this study and the data collection method, followed by signing an informed consent.

Ethics Approval and Consent Participant

In this research, all respondents were asked to provide written informed consent. Respondents can leave at any time without any influence on their current treatment. The study protocol was approved by Health Medical Research Ethical at Universitas Airlangga Faculty Dental Medicine with Reference Number 326/HRECC.FODM/VI/2021.

RESULTS AND DISCUSSION

Results

This study was conducted in Jember Regency, East Java, Indonesia, involving 120 health worker professionals administering PICT to patients in rural and urban public health centers. As many as 93 health professionals worked in rural public health centers, while 27 worked in urban health centers.

Table 1 presents the results of this study on the characteristics of health professionals and research variables that were differentiated based on the location of the public health centers. Most health professionals in this study, both in rural and urban areas, were between 31 and 40 years of age. In terms of sex, female health professionals dominate both rural and urban areas. Most health professionals in rural and urban regions completed a three-year diploma. In addition, most health professionals in rural and urban areas had worked for six to 15 years. Most health professionals in rural and urban areas who provided PICT were midwives. In comparison, health professionals in rural and urban public health centers were

dominated by those with no experience participating in PITC/VCT training.

The knowledge of health professionals regarding HIV was assessed through their basic knowledge of HIV and their basic knowledge of PITC. This study found that 79.6% of rural health professionals understood the basic knowledge of HIV, which is slightly more significant than urban health professionals (66.7%). However, a considerable number of health professionals in rural and urban public health centers lacked an understanding of the basic knowledge of HIV. On the other hand, 94.6% of rural health professionals had good knowledge of PITC, which is more significant than urban public health professionals (81.5%).

The proportion of health professionals with a good attitude towards implementing PITC in rural public health centers was found to be 58.1%, which is more significant than in urban public health centers (48.1%). It was also found that 55.9% of health workers in rural public health centers had a great ability to build relationships with patients during the implementation of PICT, which is more significant than that of urban health professionals (48.1 %). On the other hand, 8.6% of health professionals in rural public health centers had a poor ability to build relationships with patients during the implementation of PITC in rural areas (8.6%), which is more significant than urban health professionals (7.41 %). Furthermore, 44.1% of health professionals in rural areas were unable to assess HIV risk factors in the implementation of PITC, more significantly than urban health professionals (40.7%). The ability to build relationships with patients is assessed through observation when health workers provide PITC services by looking at the ability or skill of health workers to communicate with patients and the ability or skill to explore information about the patients' reasons for conducting PITC.

The pretest and posttest in this study are an assessment of the skills of health workers before and after carrying out a HIV test. This is the procedure for carrying out an HIV test, such as counseling skills, assessing the risk of contracting HIV, providing informed consent, providing referrals in accordance with the results of the HIV test and providing prevention messages. During the pretest, 44.1% of health professionals in rural areas had good

skills, which is more significant than urban health professionals (37%). During the posttest, 48.4% of health professionals in rural areas had good PITC skills, which is more significant than urban health professionals (33.3%). During the implementation, 46.2% of health professionals in rural areas had good PITC skills, which is more significant than urban health professionals (33.3%). PITC implementation skills are measured through observation by looking at the ability or skills of health workers to implement PITC following the established PITC implementation guidelines.

Table 1. Characteristics of health professionals and research variables based on the location of the public health centers

Research Variables	Category			
	Rural (n=93)	%	Urban (n=27)	%
Characteristics of health professionals				
1. Age				
<30	23	24.7%	6	22.2%
31-40	33	35.5%	13	48.1%
41-50	24	25.8%	4	14.8%
>51	13	14%	4	14.8%
2. Sex				
Male	22	23.7%	1	3.7%
Female	71	76.3%	26	96.3%
3. Education				
Three-year diploma degree	69	74.2%	21	77.8%
Bachelor's degree	12	12.9%	5	18.5%
Medical professional education	11	11.8%	1	3.7%
Postgraduate degree	1	1.1%	0	0%
4. Length of employment				
Up to 5 years	20	21.5%	4	14.8%
6-15 years	43	46.2%	12	44.4%
16-25 years	12	12.9%	6	22.2%
26-35 years	18	19.4%	5	18.5%
5. Profession				
Doctor	11	11.8%	1	3.7%
Nurse	38	40.9%	6	22.2%
Midwife	44	47.3%	20	75.21%
6. Training in PITC/VCT				
Never	71	76.3%	19	70.4%
Ever	22	23.7%	8	29.6%
Knowledge of health professionals about HIV				
1. HIV Knowledge				

Research Variables	Category			
	Rural (n=93)	%	Urban (n=27)	%
Poor	1	1.1%	1	3.7%
Fair	18	19.4%	8	29.6%
Good	74	79.6%	18	66.7%
2. PITC Knowledge				
Poor	0	0%	0	0%
Fair	5	5.4%	5	18.5%
Good	88	94.6%	22	81.5%
The attitude of health workers professionals toward the implementation of PITC				
1. Attitude				
Poor	0	0%	0	%
Fair	39	41.9%	14	51.9%
Good	54	58.1%	13	48.1%
Ability to build relationships with patients				
1. Building relationships				
Poor	8	8.6%	2	7.4%
Fair	33	35.5%	12	44.4%
Good	52	55.9%	13	48.1%
Ability to assess HIV risk factors.				
1. Assessing HIV risk factors				
Poor	41	44.1%	11	40.7%
Fair	45	48.4%	14	51.9%
Good	7	7.5%	2	7.4%
PITC skill				
1. Pretest skills.				
Poor	19	20.4%	8	29.6%
Fair	33	35.5%	9	33.3%
Good	41	44.1%	10	37%
2. Posttest skills				
Poor	30	32.3%	10	37%
Fair	18	19.4%	8	29.6%
Good	45	48.4%	9	33.3%
3. Implementation skills				
Poor	43	46.2%	16	59.3%
Fair	7	7.5%	2	7.4%
Good	43	46.2%	9	33.3%

Figure 1 illustrates the multigroup analysis model for the PITC skills of health professionals in rural and urban public health centers. The figure indicates that not all variables influenced each other. If the significant value of the variable is less than 0.05, there was an influence between

variables. For example, the knowledge of health professionals about HIV positively influenced their ability to assess HIV risk factors ($p = 0.011$) and PITC skills ($p = 0.036$). The ability of health professionals to assess HIV risk factors also positively influenced PITC skills ($p = 0.000$). Finally, the ability of health professionals to build relationships with patients positively influenced PITC skills ($p = 0.000$).

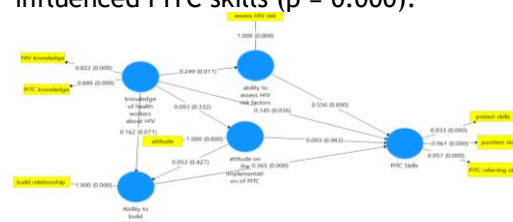


Figure 1. Model for PITC skills of health professionals in rural and urban public health centers

Figure 2 illustrates the multigroup analysis model for the PITC skills of health professionals in rural public health centers. The knowledge of health professionals about HIV positively influenced their ability to build relationships with patients ($p = 0.033$), their ability to assess HIV risk factors ($p = 0.000$), and PITC skills ($p = 0.012$). The ability of health professionals to assess HIV risk factors also positively influenced PITC skills ($p = 0.000$). Finally, the ability of health professionals to build relationships with patients positively influenced PITC skills ($p = 0.000$).

Figure 2 illustrates the multigroup analysis model for the PITC skills of health professionals in rural public health centers. The knowledge of health professionals about HIV positively influenced their ability to build relationships with patients ($p = 0.033$), their ability to assess HIV risk factors ($p = 0.000$), and PITC skills ($p = 0.012$). The ability of health professionals to assess HIV risk factors also positively influenced PITC skills ($p = 0.000$). Finally, the ability of health professionals to build relationships with patients positively influenced PITC skills ($p = 0.000$).

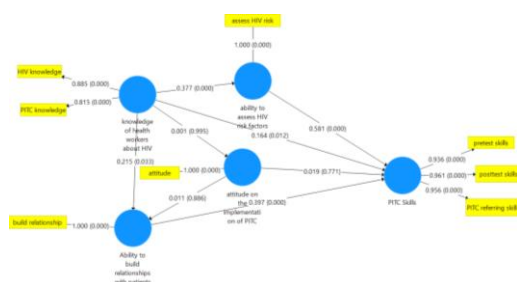


Figure 2. Multigroup analysis model for PITC skills of health professionals in rural public health centers

Figure 3 shows the multigroup analysis model for the PITC skills of health professionals in urban public health centers. The ability of health professionals to assess HIV risk factors positively influenced PITC skills ($p = 0.015$). Other variables, such as knowledge, attitude, and the ability to build relationships with patients, did not influence PITC skills. Figures 1, 2, and 3 illustrate that the attitude of health professionals toward the implementation of PITC did not influence any other variables. The attitude of health workers in the implementation of PITC assessed in this study is a reaction or response that is still closed from health workers in the implementation of PITC, so that the attitude when providing PITC services is not shown to patients. Health workers must implement PITC according to existing guidelines without looking at their attitudes.

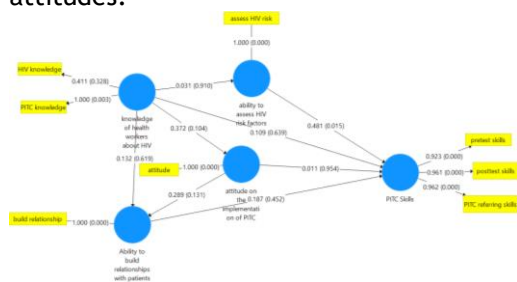


Figure 3. Multigroup analysis model for PITC skills of health professionals in urban public health centers

Discussion

HIV/AIDS has become a national health problem in Indonesia that requires comprehensive and collaborative approach to its management. However, the coverage of PICT services remains insufficient to ensure that at-risk populations are reached and their HIV status is ascertained. The role of health professionals, including doctors, nurses, and midwives, in carrying out HIV detection is becoming increasingly important because many PLWHA require

medical services and their HIV status is unknown. PITC services facilitate and accelerate diagnosis and treatment and are already widespread in countries with high HIV epidemic rates (Putri et al., 2020).

The PITC skills of health professionals were assessed based on their characteristics, which indicate no difference between health professionals in rural and urban areas. The Indonesian Government has established criteria for health professionals. Health professionals are expected to have completed at least a three-year diploma in the health sector. In addition, they must possess a registration certificate as professional health workers (Kemenkes RI, 2019).

Most health professionals in rural and urban public health centers had no experience participating in PITC/VCT training. Education and skills serve as intangible investments for health worker professionals in carrying out their roles following their job descriptions (Shofiah et al., 2019). Training can improve their skills to support the development of public health centers. Many public health centers whose health professionals have attended PITC/ VCT training are required to train other health professionals who have not participated in the training.

The multigroup analysis model for the PITC skills of health professionals using total sampling data revealed that health professionals' knowledge about HIV positively influenced their ability to assess HIV risk factors and PITC skills. A positive influence implies that better knowledge regarding HIV leads to a more extraordinary ability to evaluate risk factors and improved PITC skills. The ability of health professionals to assess HIV risk factors also positively influenced PITC skills. This is because the roles and responsibilities of health professionals are fundamental aspects of the approach to healthcare for patients with HIV/AIDS. Moreover, the ability of health professionals to build relationships with patients positively influenced PITC skills. A positive influence implies that a greater ability of health professionals to build relationships with patients leads to improved PITC skills. Several studies have identified the barriers faced by health professionals in the implementation of PITC, including negative perceptions of PITC, a lack of motivation and difficulties

in offering or conducting counseling, an increasing workload associated with PITC, a lack of specialized training for health professionals, and a shortage of testing materials. In addition, confidentiality is not guaranteed (Inghels et al., 2020).

It is imperative that health professionals possess PITC skills. Effective communication is essential for explaining the purpose and objectives of HIV testing. It motivates patients and their families and reduces the stigma of HIV disease (Kunarisasi et al., 2019). In order for patients to be empowered and able to make important decisions, they must have good knowledge about HIV testing (Yuni & Andika, 2020). On the other hand, to build good relationships with patients, health professionals must be able to communicate with patients. It is important to note that patients who seek healthcare services at medical facilities have different educational, cultural, or linguistic backgrounds. Therefore, health professionals must be able to convey health information in a language that patients easily understand.

The multigroup analysis model revealed different results in terms of the PITC skills of health professionals in rural public health centers. It was found that the knowledge of health professionals about HIV positively influenced their ability to build relationships with patients. A positive influence implies that better knowledge of health professionals leads to greater ability to build relationships with patients. Health professionals can obtain knowledge of HIV and PITC through education and training. This study found that most health professionals had never attended HIV/VCT/PITC training. As a result, this would hinder the provision of PITC services. Another study found that the lack of knowledge of health professionals impedes their ability to explain the purpose of PITC to patients. This lack of knowledge is attributed to the lack of PITC training attended by health professionals (Marwa & Anaeli, 2020). Therefore, the presence of well-trained health professionals in public health centers is essential for the adequate provision of PITC. Similar findings have been reported regarding the lack of proper knowledge and training on PITC among healthcare providers as a barrier to PITC provision (Yuni & Andika, 2020).

Health professionals in rural areas often face challenges in building relationships with patients because most patients speak their local language. Building relationships requires health professionals to be able to convey information about HIV in the local language. Using appropriate language will help patients understand and prevent misperceptions, which could potentially lead to refusal to take an HIV test (Yuni & Andika, 2020). Another study showed that communication using abusive language increases the stigma associated with HIV, which leads to refusal to take a HIV test (Wulandari et al., 2022). In this study, building relationships with patients in urban areas had no influence on other variables.

Other studies reported different results. Good knowledge does not always mean having a positive attitude, for example, reporting that health workers have good knowledge about HIV/AIDS and its transmission but refuse to treat patients with HIV/AIDS because of fear of infection (Sufiawati et al., 2021). Other studies also say that even though they have an excellent attitude, if it is not followed by the availability of facilities and infrastructure as well as appropriate training and monitoring at work; this will also affect the skills of a health worker in carrying out their work according to standards (Suryani et al., 2022); providing understanding during health services is the main thing. Language use is one of the determining factors in health services today. However, what is more important is the exact words and concepts that the community in health services can understand (Alderwick & Gottlieb, 2019).

The strength of this study is that during the measurement, questionnaires and observation check list were used which were very detailed and adjusted to the service standards that must be applied when offering HIV tests. In addition, enumerators who will collect data must undergo training on PITC so that they can assess whether the skills of health workers are appropriate or not. A limitation of this study is that data collection was conducted in July and November 2021 during the COVID-19 pandemic. Healthcare workers face challenges during PITC. Healthcare workers use personal protective

equipment, such as hazmat suits and masks, which hinder communication, such as not being loud enough, not knowing who is speaking, and maintaining social distancing policies. In contrast, when offering PITC, healthcare workers need good communication.

CONCLUSIONS

The factors associated with PITC skills of health professionals in Indonesian public health centers in urban and rural areas varied. However, in general, the PITC skills of health professionals were influenced by knowledge of HIV and PITC, ability to build relationships with patients, and ability to assess HIV risk factors. In rural areas, the knowledge of health professionals about HIV influenced their ability to build relationships with patients, assess HIV, and PITC skills. The ability of health professionals to assess HIV risk factors and build relationships with patients positively influenced their PITC skills. In urban areas, the ability of health professionals to assess HIV risk factors also positively influenced PITC skills. However, other variables, such as knowledge, attitude, and ability to build relationships with patients, did not influence PITC skills.

Learning a language that the patient understands is highly recommended in providing good service during a HIV test.

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