



## RESEARCH ARTICLE

URL article: <http://jurnal.fkmumi.ac.id/index.php/woh/article/view/woh9321>**HIV/AIDS Services at Padang City Community Health Centers: A Qualitative Study of Voluntary Counseling and Testing (VCT)****<sup>C</sup>Hamidatul Yuni<sup>1</sup>, Anggela Pradiva Putri<sup>2</sup>, Aulia Shalsabila<sup>3</sup>**<sup>1,2,3</sup>Departement of Public Health, Faculty of Public Health, Andalas University, IndonesiaEmail Corresponding Author(<sup>C</sup>): [hamidatulyuni@ph.unand.ac.id](mailto:hamidatulyuni@ph.unand.ac.id)[hamidatulyuni@ph.unand.ac.id](mailto:hamidatulyuni@ph.unand.ac.id)<sup>1</sup>, [anggela pradivaputri@ph.unand.ac.id](mailto:anggela pradivaputri@ph.unand.ac.id)<sup>2</sup>, [auliashabilaa@gmail.com](mailto:auliashabilaa@gmail.com)<sup>3</sup>**ABSTRACT**

Indonesia is estimated to have approximately 570,000 people living with HIV (PLHIV). However, only 31% have accessed antiretroviral therapy (ART), and 14% have achieved viral suppression. Padang City is the city with the highest number of new HIV/AIDS cases in West Sumatra over the past four years. The number of cases was 225, 227, 286, and 333 in 2020, 2021, 2022, and 2023, respectively. Although HIV testing coverage has increased, evaluating the implementation of VCT services remains important to identify barriers affecting service quality and program performance. This study aims to analyze the VCT HIV/AIDS services in several health centers in Padang City, using the input, process, and output (IPO) systems framework. A qualitative descriptive study was conducted in four Community Health Centers selected purposively based on HIV case burden, comprising two with the highest and two with the lowest numbers of cases. Participants were selected purposively based on their involvement in VCT service delivery. Data were collected through in-depth interviews, observation, documentation review, and focus group discussions, with source and method triangulation used to ensure data credibility. The results showed that VCT inputs were generally adequate. Human resources were sufficient and trained, and facilities were in good condition. However, funding was sufficient for Community Health Centers with lower case numbers but insufficient for those with higher case numbers. In terms of process, planning, implementation, and evaluation generally followed the guidelines. In terms of output, Andalas Health Center did not reach the target for examinations, while health centers with the lowest cases reached the target. In conclusion, the implementation of VCT at health centers in Padang city was generally adequate. However, funding limitations, unclear task distribution, and the failure to achieve the HIV testing target at one of the highest case health centers indicate that several aspects of service implementation still need improvement.

Keywords: HIV Testing; HIV infection, health centers, program evaluation

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## INTRODUCTION

Data from the Indonesian Ministry of Health's Disease Prevention and Control Program Report states that the highest number of new HIV cases in West Sumatra is in Padang City.<sup>1</sup> The number of cases spiked in 2018, with 447 cases in Padang City then decreased by 35.8% to 287 cases in 2019.<sup>2</sup> The Health Office of Padang City stated that in 2020 there were 225 cases (2020), 227 cases (2021), 286 cases (2022) and 333 cases (2023).<sup>3</sup> This increasing trend put pressure on health center to strengthen HIV testing and ensure effective implementation of VCT for early case detection and linkage to treatment.

The Voluntary Counseling and Testing (VCT) program is an essential strategy to reduce HIV/AIDS cases by engaging communities in early detection, particularly among high-risk populations, through counseling and voluntary HIV testing at health facilities.<sup>4</sup> VCT was officially implemented in 2004 in response to fluctuating trends in HIV cases. This initiative represents the government's commitment to reducing HIV incidence, preventing further transmission within the community, and ensuring appropriate care and treatment for people living with HIV/AIDS. Effective VCT implementation depends on the accessibility of HIV testing, while stigma remains a major barriers to service utilization. However, several challenges continue to hinder the optimal implementation of VCT in Indonesia. This situation is primarily influenced by the persistence of social stigma associated with HIV/AIDS, especially towards people living with HIV/AIDS (PLWHA's) and their families. Such stigma often generates fear and reluctance among individuals to undergo testing, thereby hindering early detection and timely access to care.<sup>5</sup>

In Indonesia, VCT services are delivered through two main models, mobile services (outreach-based approaches) and static services at health facilities.<sup>6</sup> Mobile VCT enhance access by reaching populations with limited access to health centers facilities, while static services offer more comprehensive and continuous care, including counseling, HIV testing, treatment referral and follow up.<sup>7</sup> These differences in service delivery may influence the quality and effectiveness of VCT services, particularly in terms of access and continuity of care. Health facilities offering VCT programs are expected to provide services that meet established standards, including adequate infrastructure, resources, and trained personnel to ensure the quality and continuity of VCT services and to support effective program implementation.

In the actual condition, VCT services in Indonesia have not yet fully ensured that people voluntarily seek HIV testing. Nevertheless, uptake has shown improvement in recent years. In 2020, 19,136 individuals underwent HIV testing, rising to 23,386 in 2021 and 28,103 in 2022.<sup>8</sup> The increase in HIV testing did not necessarily reduce the number of HIV and AIDS cases, where there was a decrease in HIV cases and an increase in AIDS cases in 2020. In 2020, reported HIV cases decreased to 41,987, which represented the lowest level recorded in the previous four years, while AIDS cases increased to 8,639 compared with 7,036 in 2019. These trends may related to delayed diagnosis, persistent stigma,

and challenges in linking individuals to treatment and continuous HIV care. Increased testing does not necessarily reduce HIV transmission when individuals are diagnosed late or do not receive continuous treatment and care. Therefore, VCT services in Indonesia need to be continuously strengthened to reduce new infections and ensure comprehensive care for people living with HIV/AIDS (PLWHA).<sup>9</sup>

In 2022, the health centers with the highest number of reported HIV cases in Padang City were Seberang Padang Health Center, with a total of 48 cases, and Andalas Health Center, with 14 cases. Conversely, some health centers with the lowest number of HIV cases were Lubuk Buaya Health Center, with 2 cases, and Lubuk Begalung Health Center, with no reported cases. Previous research have examined HIV testing implementation and coverage at primary health centers, including resources, task distribution, SOPs, facilities, and stigma.<sup>10</sup> Comparing these settings may help identify implementation gaps and improve HIV program in Padang City

## METHOD

The method in this study is a qualitative research design using a systems approach, that examine inputs (policies, human resources, funding sources, and facilities/infrastructure), processes (planning, organizing, implementation, and monitoring/evaluation), and outputs (VCT coverage). The study was conducted at four health centers in Padang City, namely Andalas, Seberang Padang, Lubuk Begalung, and Lubuk Buaya, from March to October 2023. A total of 36 informants were purposively selected for their involvement in or experience with VCT Services. Informants in the study, included health center directors, VCT program officers who also served as counselors, physicians, laboratory staff, and VCT clients at each health center. For health professionals and program staff, eligibility was determined by formal involvement in the VCT Program, as verified by an official appointment letter. For VCT clients, eligibility was based on experience receiving VCT services; PLWHA informants were required to have received VCT services for more than one month. VCT Counselors assisted in identifying potential PLWHA informants who met the eligibility criteria. Data were collected through in-depth interviews, observations, document review, and Focus Group Discussions (FGDs). Data credibility was ensured through source and method triangulation, and data analysis involved data collection, data reduction, and data presentation with emerging findings informing subsequent data collection. Data collection continued until thematic saturation was achieved, defined as consecutive interviews or FGDs that generated no new codes or themes and no substantial modifications to the existing thematic structure.

## RESULTS

We conducted in-depth interviews and FGDs. In-depth interviews were conducted with 16 healthcare workers providing VCT services, while FGDs were conducted with 20 VCT clients. The characteristics of the informants are detailed in Table 1.

Table 1. Informant Characteristic

| In-depth Interview Informants (n=16) |           | FGD Informants (n=20) |          |
|--------------------------------------|-----------|-----------------------|----------|
| Characteristics                      | n (%)     | Characteristics       | n (%)    |
| Gender                               |           | Gender                |          |
| Female                               | 16 (100%) | Female                | 10 (50%) |
| Male                                 | -         | Male                  | 10 (50%) |
| Age (Year Old)                       |           | Age (Years)           |          |
| < 35 yo                              | 4 (25%)   | < 25 years            | 5 (25 %) |
| 35-60 yo                             | 12 (75%)  | 25-40 years           | 13 (65%) |
|                                      |           | > 40 years            | 2 (10%)  |
| Final Education                      |           |                       |          |
| Diploma 3                            | 4 (25%)   |                       |          |
| Bachelor degree                      | 9 (56,3%) |                       |          |
| Master's degree                      | 3 (18,7%) |                       |          |

The analysis was performed using a systems-based approach, structured around three main components and nine subthemes corresponding to the study objectives: Inputs (human resources, funding, facilities and infrastructure, and policies), Processes (planning, organizing, implementation, and evaluation), and Outputs (achievement of targets and improvements in HIV/AIDS VCT coverage). The study involved four health centers representing high and low-HIV burden settings, enabling comparison of VCT implementation across diverse service settings. Several challenges and issues were identified through this analysis, which are summarized in Table 2.

Table 2 summarizes the similarities and differences in VCT implementation between health centers with high and low HIV case burdens.

### 1. Input

The input component showed that human resources, policies, and infrastructure generally supported VCT implementation across the four health centers. Staff had received relevant training and were sufficient for service needs, although they also handled other programs. Human resource availability was therefore not identified as a major barrier.

Funding came from APBN, BOK, APBD, BLUD, and Global Fund support, and was mainly used for field activities such as mobile VCT. Funding was insufficient for medication-adherence monitoring at Andalas and Seberang Padang, the two centers with the highest HIV case numbers. In contrast, funding at Lubuk Begakung and Lubuk Bauaya was considered adequate. Facilities and infrastructure were generally functional and adequate. However, not all centers had a dedicated VCT counseling room, which is important for privacy and confidentiality.

Informant 6 stated, "There is no funding for drug tracking, so the solution is to add funding."

Staff with longer VCT experience were generally familiar with the applicable policies, including Ministry of Health Decree No. 1507/MENKES/SK/X/2005, and Decree No. HK.01.07/MENKES/90/2019. Each center had VCT SOPs, although the number and scope differed.

Table 2. Comparison of VCT Services at Health Centers with the Highest and Lowest HIV Cases

| Observed Aspects      | Comparison                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Health Centers with Highest HIV Cases (Andalas and Seberang Padang)                                                                                                                                                                                                                                                                                                             | Health Centers with Lowest HIV Cases (Lubuk Buaya and Lubuk Begalung)                                                                                                                                                                                                                                                                                                        |
| Policies/SOPs         | Some health workers do not know policies issued by the Minister of Health at Puskesmas Andalas.                                                                                                                                                                                                                                                                                 | Health workers already know policies issued by the Minister of Health                                                                                                                                                                                                                                                                                                        |
| Human resources       | Human resources are sufficient to meet the needs of VCT services, and appropriate training has been received. Although staff have responsibilities outside the VCT program, these do not disrupt the delivery of VCT services.                                                                                                                                                  | Human resources are sufficient to meet the needs of VCT services, and appropriate training has been received. Although staff have responsibilities outside the VCT program, these do not disrupt the delivery of VCT services.                                                                                                                                               |
| Financing             | Funding is insufficient, as there is no allocation for monitoring medication adherence.                                                                                                                                                                                                                                                                                         | Funding availability meets the requirements of the VCT program.                                                                                                                                                                                                                                                                                                              |
| Infrastructure        | At Andalas Health Center, a dedicated space for VCT counseling has not yet been established.                                                                                                                                                                                                                                                                                    | The availability of facilities and infrastructure is adequate and in good condition.                                                                                                                                                                                                                                                                                         |
| Planning              | At Andalas and Seberang Padang Health Centers, Work Plan Framework (WPF) were developed by the health center directors and the administrative division in collaboration with the VCT team.                                                                                                                                                                                      | At Lubuk Begalung Health Center, a Primary Health Care Planning Team (PHC Planning Team) was established. At the same time, at Lubuk Buaya Health Center, the plans were formulated during the Activity Implementation plan (AIP) led by the health center director and attended by all healthcare staff as well as cross sectoral agencies such as the local health office. |
| Organizing            | The duties and responsibilities of each healthcare worker are outlined in the team appointment decree.                                                                                                                                                                                                                                                                          | The duties and responsibilities of each healthcare worker are not specified in the team appointment decree.                                                                                                                                                                                                                                                                  |
| Implementation        | The main challenge Andalas Health Center faces is the difficulty in transporting clients' blood samples for medication adherence monitoring, with issues such as sample damage during transit. In contrast, at Seberang Padang Health Center, the challenge lies in that sample testing, which the laboratory should conduct, must instead be performed by other staff members. | There are no obstacles related to the implementation                                                                                                                                                                                                                                                                                                                         |
| Assessment/evaluation | The VCT program is evaluated monthly using the Ministry of Health's SIHA (HIV/AIDS System Information) application. In addition, general program evaluations are conducted at the health centers every three months, six months, and annually.                                                                                                                                  | The only challenge encountered relates to reporting, which arises when the reporting format must be adjusted to comply with the updated format issued by the Ministry of Health.                                                                                                                                                                                             |
| Inspection coverage   | Andalas Health Center has not yet reached the target for HIV testing coverage.                                                                                                                                                                                                                                                                                                  | The target for HIV testing coverage has been achieved.                                                                                                                                                                                                                                                                                                                       |

Andalas, Lubuk Begalung, and Lubuk Buaya had one SOP covering pre-test counseling, testing, and post-test counseling. In contrast, Seberang Padang had six SOPs covering additional procedures, including blood collection, mobile HIV testing, and patient education. Overall, funding was the main input-related constraint.

## 2. Proses

Informant 13 stated, "Each program holder makes planning... so they know best what infrastructure needs they need for services...so they are written in the AIP"

VCT planning covered activities, objectives, target populations, target coverage, responsible personnel, timelines, facilities and funding. At Andalas and Seberang Padang, the public health center directors and the administrative division prepared the work plan with the VCT team. Lubuk Begalung used a Primary Health Care Planning Team, while Lubuk Buaya developed plans through Activity Implementation Plan meetings involving health-center staff and cross-sectoral stakeholders.

VCT staff were appointed through decrees issued by public health center directors. The decrees at Andalas and Seberang Padang specified staff duties and responsibilities, whereas those at Lubuk Begalung and Lubuk Buaya did not clearly include this information. VCT followed national guidance for pre-test counseling, HIV testing, and post-test counseling, and was delivered both at health centers and through mobile services in hotspot areas. Most clients were satisfied, although some reported that informed consent was not always obtained and that registration could be delayed.

Informant 5 stated, "The problem in reporting is the format, which sometimes changes from the national center, so we have to input from the beginning again."

Monthly evaluation and reporting were conducted through the Ministry of Health's SIHA application, with broader program reviews every 3, 6, and 12 months. Changes in reporting formats sometimes required that data be entered, delaying submissions, particularly at centers with higher patient volumes.

## 3. Output

Only Andalas Health Center had not achieved its HIV testing target, with a rate of 92.85%. The other three centers met their targets. However, gaps remained in screening among pregnant women and in reaching certain high-risk groups, indicating that target achievement does not necessarily imply complete coverage of all intended populations.

# DISCUSSION

## Input

Health-center VCT services require trained counselors, case management and laboratory personnel, a physician, and administrative support<sup>6,11</sup>. In this study, staff were generally sufficient and trained, but competing responsibilities remained part of the service context. Funding was the main constraint,

particularly for medication-adherence monitoring<sup>12,13,14</sup>. Limited funding can restrict follow-up and adherence support, which are important for retaining clients in care and supporting continued ART<sup>15</sup>.

Regarding facilities and infrastructure, a separate VCT service room is necessary to enhance patient comfort and maintain confidentiality<sup>16</sup>. In this study, the facilities and infrastructure were generally adequate to support VCT service delivery. Well-maintained facilities are a critical support factor for health services, as good infrastructure facilitates the provision of care in accordance with established standards<sup>17</sup>. Concerns about privacy and stigma can discourage service uptake; therefore, dedicated counseling space should remain a priority<sup>18</sup>.

Existing policies and SOPs provided a basis for VCT delivery, but Policy availability alone cannot ensure effective implementation. Adequate staffing, reliable funding, confidential facilities, and resources for adherence monitoring are also needed<sup>4,19,20</sup>. These practical supports should be strengthened to maintain consistent services and meet established standards.

### Process

VCT planning in the four public health centers followed established planning principles, with work plans identifying activities, targets, personal timelines, infrastructure, and funding<sup>2</sup>. Nevertheless, plans did not fully resolve local coverage gaps; Andalas achieved 92.85% of its target, and some high-risk groups and pregnant women remained insufficiently reached<sup>22</sup>. Planning should therefore respond more directly to local service needs.

Task allocation deferred across public health centers. Andalas and Seberang Padang had decrees describing staff responsibilities, while Lubuk Begalung and Lubuk Buaya lacked clear descriptions in their appointment decrees. Unclear roles can complicate coordination and accountability, particularly when several staff members share service duties<sup>23</sup>. Explicit job descriptions may improve teamwork and consistency<sup>21,24,25</sup>.

VCT services generally followed the recommended sequence of pre-test counseling, testing, and post-test counseling<sup>1,26</sup>. However, some participants reported that informed consent was not always obtained. This indicates inconsistent implementation of a core safeguard for voluntary testing and patient autonomy<sup>27</sup>. Reinforcing consent procedures and supervision may help protect clients' rights and maintain trust.

Andalas faced difficulties transporting blood samples for ART monitoring because samples could be damaged in transit. At the Seberang Padang laboratory, the workload sometimes led other staff to perform testing. Task shifting can help maintain services when staff are limited, but it requires appropriate training, supervision, and quality control to avoid increasing workload or compromising test quality<sup>28-34</sup>.

SIHA is used for national HIV/AIDS reporting, supported by routine evaluations at public health centers<sup>1,2</sup>. However, reporting quality depends on complete, accurate, and timely data<sup>35,36</sup>. Changes in

reporting formats and high data volumes can delay submissions, particularly where staff have other duties. Streamlined procedures and staff support may improve the timeliness of reporting.

At Seberang Padang, large reporting volumes and the absence of dedicated recording-and-reporting staff contributed to reporting difficulties. Similar burdens have been reported in the primary health care setting<sup>37</sup>. Training additional staff in SIHA, clarifying reporting guidance, and improving digital access may distribute the workload and support timely submissions<sup>38,39</sup>.

## Output

Three of the four health centers studied met their VCT examination targets. Seberang Padang reached 100% coverage in 2022, up from 93% in the previous year, while Lubuk Begalung and Lubuk Buaya also achieved their planned targets. Andalas improved from 63% to 92.85% but remained below the target. Its challenges included the absence of a dedicated VCT room and damaged samples during transport. Operational pressures, including laboratory workload and limited space, were compounded by higher case burdens at Andalas and Seberang Padang. These findings suggest that target achievement should be interpreted alongside service quality and coverage among specific target groups<sup>40</sup>. Public Health Centers should prioritize sufficient resources, clear task allocation, confidential VCT facilities, and support for laboratory and reporting activities. Action should reflect each center's HIV burden and operational conditions.

These findings indicate that service targets must be aligned with operational processes. Specimen damage and laboratory workload may delay monitoring despite the availability of testing procedures. Strengthening specimen transport, clarifying staff responsibilities, and providing training and supervision may reduce disruptions. Routine SIHA reporting all supports performance monitoring and requires practical data-entry assistance and standardized reporting formats to ensure timely, accurate records. Differences between centers require tailored approaches: high-burden centers need adequate funding and laboratory support, while all public health centers require consistent procedures for consent, confidentiality, and documentation. Monitoring should assess both coverage and service quality, including target-group reach, consent, and follow-up completion.

## CONCLUSIONS AND RECOMMENDATIONS

Most health workers in Padang City are familiar with PMK (Regulation of the Minister of Health), KMK (Decree of the Minister of Health), and Standard Operating Procedures (SOPs), and VCT services were generally implemented in accordance with these guidelines. However, some gaps were identified at Andalas Health Center, including limited knowledge of Ministry of Health policies, insufficient funding for medication-adherence monitoring, the absence of a dedicated counseling room, and damaged blood samples during transport. At Seberang Padang Health Center, the main challenge was the laboratory workload, which led to other staff performing sample testing. Andalas was also the only health center that did not reach the VCT target, although its coverage increased from 63% to 92.85%.

Improvements should focus on the specific problems identified at each health center. Andalas needs better dissemination of Ministry of Health policies, funding for medication adherence monitoring, a dedicated counseling room, and improved sample transportation. At Seberang Padang and Andalas, clearer task allocation and appropriate training for staff involved in laboratory activities may help reduce the workload. Additional staff training for SIHA reporting may also help reduce the reporting burden. These improvements should be considered based on the HIV burden and operational conditions at each health center.

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