




The Evaluation of HIV Surveillance System in Pregnant Women in Badung Regency, Indonesia

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Abstract: HIV surveillance is very important to support HIV/AIDS treatment in pregnant women to break the chain of HIV transmission to their children. The objective of this study was to evaluate the HIV surveillance system in pregnant women in Badung regency. This study used a descriptive observational approach performed using a questionnaire and checklist. We interviewed 13 HIV health officers from primary healthcare centers in Badung regency regarding the input, process, and output of the surveillance. This study found that HIV health officers lacked the ability to detect and map all HIV-confirmed pregnant women early (92.3%) using the web system. Most HIV health officers did not complete the form records (92.3%), leading to less accurate information. In addition, most of them faced obstacles in reporting the process to the web system. Lack of ability to detect and map HIV case in pregnant women needs to be solved by providing technical guidance to HIV health officers.


1 INTRODUCTION


Mother To Child Transmission (MTCT) is the transmission of an infection from a mother to her child. The high rate of MTCT in Indonesia reached 61,000 HIV-positive pregnant women, and only some (56%) of mothers who gave birth were infected with HIV and underwent ARV therapy in 2017 (UNAIDS, 2018). Bali province was reported having 160 pregnant women with HIV positive in 2017 (Bali Provincial Health Office, 2017). Furthermore, 30 HIV-positive cases in pregnant women were found in Badung regency in 2018. The HIV positive incidence in pregnant women poses a risk for children to get infected. Previous research discovered new HIV/AIDS cases in children aged < 15 years amounting to 180,000 new HIV-positive cases and 110,000 new AIDS cases worldwide in 2017 (UNAIDS Global Summary, 2017). An increase in new cases of HIV-positive infection occurred to children every year in Indonesia from 2010 to 2016 (2,300 new cases; 3,200 new cases, respectively)

(UNAIDS, 2017). Of 25% of babies born to HIV-positive mothers in Indonesia, 16.9% of them were infected by HIV in 2017 (UNAIDS, 2018). MTCT cases can be seen from the number of new HIV and AIDS-positive cases in children aged <4 years (1.50% and 3.27%) and 5-14 years (0.81% and 0.27%) in Bali in 2017 (Bali Provincial Health Office, 2017).

HIV testing on the Service Providers and Counseling Initiative (PITC) is one of the programs to prevent the transmission of HIV/AIDS from a mother to her baby. PITC is one of the programs in Indonesia that is run by all districts through the Primary Health Center. However, a gap was found between the targets and outcomes of PITC. Data from Badung District Health Office show that the PITC program had not reached the target yet from 2020 to 2021. The program still uncovered 2,991 and 3,219 pregnant women in 2020 and 2021, respectively. Thirteen Health Offices report their PITC progress monthly to the Badung District Health Office. Problems were found that the PITC carried out at private health facilities were not reported or few pregnant women participated in the program. According to interviews with HIV/AIDS

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program holders of Badung District Health Office, reporting flow from private health facilities was unclear enough.

To find gaps in PITC implementation, this study aimed to evaluate the HIV surveillance system, especially for pregnant women in Badung regency. This evaluation can later be used in intervention planning and formulation of HIV surveillance systems for pregnant women to control HIV transmission from mothers to babies

2 SUBJECTS AND METHODS

This study was observational descriptive research conducted at the Badung District Health Office. The total sampling was used to select 13 HIV program holders across all primary healthcare centers of Badung regency. Data was collected from February to May 2022 using questionnaires, checklists, and interviews with the program holders. The components evaluated included input (man, money, material, and method), process (early detection, recording, reporting, accuracy, data analysis, and monitoring), and output (dissemination). The data collected were analyzed descriptively using SPSS 25 for Windows to see the distribution of each variable. All data were presented in the form of graphs and tables.

3 RESULTS

3.1 Input Evaluation

Table 1: Distribution of human resources at Badung district health office in 2022

Aspects of Human Resources	F (%) N = 13
Gender	
Female	12 (92.3%)
Male	1 (7.7%)
Last Education	
Diploma	7 (53.8%)
D4/S1	5 (38.5%)
S2	1 (7.7%)
Epidemiology Education Background	
Yes	2 (15.4%)
No	11 (84.6%)
HIV Surveillance Training	
Yes	6 (46.2%)
No	7 (53.8%)
Total Workload	
1 program	2 (15.4%)
2 programs	8 (61.5%)

More than 2 programs	3 (23.1%)
Length of work as HIV surveillance	
≤ 5 years	8 (61.5%)
> 5 years	5 (38.5%)

Table 1 describes that most of the program holders are women (92.3%) and mostly hold diploma education (53.8%). Most of them did not have a history of previous epidemiology education (84.6%) and did not receive training (53.8%). In addition, most program holders were responsible for two programs (61.5%). Most of the program holders had a history of working in surveillance for five years (61.5%). The complexity of the program management was that 13 offices had standard operating procedures of HIV surveillance in their workplaces (61.5%). Most of the offices had good facilities and infrastructure although some had problems with internet connection, computer, and printers

3.2 Process Evaluation

3.2.1 Early Detection

Early detection of HIV in pregnant women can be done through the PITC program which can incorporate screening for HIV and sexually transmitted diseases. However, data show that the offices in Badung regency had not achieved the predetermined targets well due to the absence of HIV case mapping (92.3%). Meanwhile, mapping is prominent to see the distribution of pregnant women and infections in the work areas of district health offices that perform Antenatal Care (ANC). Without this strategy, it will be difficult to identify HIV cases early.

3.2.2 Recording and Reporting

Most of the offices did not record HIV cases on the KT form (92.3%). They also slowly reported the case to the WA group which was available 1 x 24 hours (53.8%). Some problems causing poor reporting are poor internet connection, interference with the SIHA application, slow computers, and untransferred reporting which was only done in Ms. Excel not to SIHA.

3.2.3 Completeness

Most of the offices understood the KT form and operations of SIHA program. However, the program was not used optimally because patients forgot to bring their identity card.

3.2.4 Data Analysis

Most of the HIV program holders in Badung regency understood how to analyze data and make data analysis.

3.2.5 Monitoring

Most of the offices were monitored by district and provincial officers. The offices conducted planning, preparation, implementation, and evaluation of the surveillance program every three months.

3.3 Output Evaluation

Table 2: Output evaluation.

Output Evaluation	Yes/no	%
The results of surveillance analysis are disseminated to the public as a guide to early HIV detection	Yes	38.5
	No	61.5
Conducted a management review to discuss the trend of HIV cases in pregnant women at the Health Center Office	Yes	69.2
	No	30.8
There is feedback or evaluation from superiors or tiered feedback on the reports given	Yes	92.3
	No	7.7

Information related to HIV surveillance was not distributed to the society (61.5%). Hence, awareness of sexual health, especially HIV in pregnant women, is hard to achieve.

3.4 Attribute Surveillance

3.4.1 Simplicity

The representation of HIV report is considered important by considering the objectives of HIV surveillance system. Five reports came from the primary healthcare centers, hospitals, district/city health offices and provincial health offices. The report format was simple and easy to understand because communication was provided on WhatsApp to provide fast and effective information

3.4.2 Flexibility

The HIV surveillance system for pregnant women was flexible. It requires pregnant women to take a laboratory test which result finished in 15-30 minutes. Standardized reporting has also been carried out through the SIHA system.

3.4.3 Acceptability

Based on the results of observations, most of the KT forms were incomplete. By involving private practice, the health offices could have more support for case reporting.

3.4.4 Sensitivity

The HIV surveillance system was conducted using the 2013 reporting technical manual from the Indonesian Ministry of Health. Blood samples of pregnant women were examined in each primary healthcare center.

3.4.5 Representativeness

A surveillance system was considered representative because all health offices performed PITC for early detection and reporting of HIV cases in pregnant women every month.

3.4.6 Timeliness

The interview and tracing results mention that every case report was reported on time from the 26th to the 31st each month.

4 CONCLUSIONS

This study confirms that the HIV surveillance system was still poorly run for the pregnant women population. Beside the problem, the program holders lack the ability to map HIV risk in pregnant women and received double workload. Also, they did not complete KT form fully and did not disseminate information related to HIV surveillance to the society, leading to poor awareness of early HIV detection.

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