

Evaluation of HIV screening at antenatal care settings in Denpasar City

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ABSTRACT

Background and purpose: National strategy to increase the coverage of prevention of mother to child transmission (PMTCT) program in Indonesia is integrating the service into public health centres (*puskesmas*). In Bali, the integration has been started since 2014. After one year of program implementation, an evaluation was conducted in order to provide input and feedback for program improvement.

Methods: Secondary data analysis and indepth interview with 13 key informants in Denpasar City were conducted to assess input, process and output of the integration implementation.

Results: Of the 11,719 pregnant women targeted within the program, 43% were offered to undergo HIV testing and 98% of these agreed to have HIV test with 17 were found HIV positive. Interviews

with key informants found that there were adequate resources both in terms of manpower, funds and equipment. Obstacles found in the implementation include different site of ANC and HIV testing facility. The other barrier was high number of pregnant mother who conducted ANC at private obstetrician which not yet included in the program.

Conclusions: Integration of PMTCT into ANC services at public health centre (PHC) is an effective way to improve the uptake of HIV screening among pregnant women. However, there is a need of effective of referral systems from private midwives and PHC satellite services. The expansion of networks into private midwives and obstetrician will be instrumental in improving performance outcomes.

Keywords: ANC, PMTCT, HIV, public health center, pregnant women

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INTRODUCTION

UNAIDS estimated that globally 36.7 million people were living with HIV in 2015, in which 1.8 million of them were children under 15 years of age. By 2015, new HIV infections among children had been declining rapidly approximately by 50% since 2010.^{1,2} The decline was suggested to be related with the adequate access to HIV prevention care and treatment services.^{3,4}

In contrast, the number of children living with HIV in Indonesia increased from 1.133 in 2015 to 1.309 in 2016.⁵ This indicates the increase of mother to child HIV transmission (MTCT), which possibly resulted from the estimated low coverage of ARV (only 10%) among pregnant women in 2014.⁶ This situation suggests that Indonesia needs an adequate program for the prevention of MTCT.

One of the efforts to improve the achievement of PMTCT is by integrating the program into the ante natal care (ANC) services. Thailand is the first country in Asia that has made great strides in reducing the MTCT rate.⁷ In 2015, the coverage of HIV testing in HIV positive pregnant mothers was 100% and 95% of HIV-positive pregnant women received antiretroviral therapy in the country. The high coverage of HIV test and treatment among pregnant women leads to the low rate of MTCT in

Thailand which reaches only 2%, compared with the 5% global target.⁸ This success is a result of strong political commitment, well-developed and well-utilized maternal, neonatal and child health (MNCH) infrastructure and the early adoption of provider initiated testing and counselling (PITC) as a national policy for key populations, including antenatal clients. These factors are critical to consider as other countries in Asia continue to expand antenatal HIV testing and counselling services.

In 2011, it was estimated that the number of HIV+ pregnant women who need the PMTCT services in Indonesia would increase from 12,065 in 2011 to 16,691 in 2016.⁹ However, in 2016, there were only 1,609 HIV+ pregnant women who received PMTCT services in 277 hospital and health centres.⁵ Learning from the success of Thailand, Ministry of Health (MoH) of Indonesia tried to increase the coverage of HIV screening at ANC setting.⁵ In 2013, the MoH conducted trainings on the integration of PMTCT into mother and child health (MCH) services for 12 provinces in Indonesia with 65 districts and 166 public health centers (PHCs) being selected in each province. The PMTCT integration into the ANC services at the PHC focused on the implementation of HIV

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screening for all pregnant women who access ANC services at the PHC.

Bali was selected as one of the provinces that implementing HIV screening among pregnant women at ANC services at the PHC. Initial activities focused on 3 districts that were Denpasar City, Badung and Buleleng. The implementation of HIV screening in ANC services at PHC in Denpasar City area has been running since early 2014. The evaluation aims to understand the implementation of HIV screening at ANC services at the PHC in Denpasar City, including the supporting factors and the barriers of the implementation. Results of this evaluation are expected to provide inputs for the improvement of HIV screening at the PHC so that the program can run effectively as part of HIV prevention efforts for the community in Denpasar City.

METHODS

Evaluation was conducted at the early of 2015, after the first year program implementation. The study explored the inputs, process and outputs of the HIV screening implementation at the ANC services at the PHC. Inputs included: human resources, funding sources, materials, targets and policies. Process of the program included: program planning, implementation, reporting and supervision, while the output included: the results of the activities compared with the program targets.

Respondents involved in the evaluation on the HIV screening program were all program implementers in the PHCs in Denpasar. A total of 13 respondents were chosen through purposive sampling by choosing one person from each team in each PHC, and two respondents from the Denpasar Health Office.

Semi-structured questionnaire was used to measure inputs, processes and outputs indicators. In addition to interview with stakeholders, observation was made on the process aspects of activities and obstacles faced by officers in carrying out the program. Secondary data were also collected to support the input and output aspects of the program. Descriptive analysis was conducted to both quantitative and qualitative data.

RESULTS

Input

Human resources, funds and materials of the program were sufficient. All team members, in both district health office and PHCs, received training on integrating HIV screening into ANC services. The team members consisted of midwifery

coordinator, midwives, PHC satellite staff, head of HIV program, PHC medical doctors, VCT counselors and laboratory analysts. Some team members who did not receive training had received training materials from trainees. The training was held by Provincial Health Office, Denpasar City Health Office, and Denpasar City AIDS Commission. In addition to the team members at the PHC, midwife coordinators in several PHCs also disseminated the program information to private midwives in the working area of PHC. The funding sources of the program were from national (40%), provincial (30%) and district budget (30%). Funds were also obtained from other sources such as PHC operational fund and health insurance scheme.

Funds for this program were allocated for materials procurement, promotion activities, supervision and evaluation. All respondents stated that examination equipment, consumables, registration and referral forms and examination and counselling rooms were sufficient. However, there was no fund allocated for transportation of referred pregnant women from PHC satellites or private midwives to PHCs or hospitals.

The implementation of HIV screening has been regulated by the MoH through the MOH Regulation No.21/2013 and Instruction Letter from Minister of Health No.001/2013 on the implementation of PMTCT activities at the PHCs was also signed. Target of the program was set by the MoH. The estimated number of pregnant women in Denpasar in 2014 was 19,532. The target of the offered pregnant women to perform HIV testing in the first trimester was 11,719 (60% of pregnant women), and all of them expected to participate in HIV testing.

Process

All PHCs had already had voluntary counselling and testing (VCT) services and 4 PHCs had had sexual transmitted infection (STI) services before the implementation of integrated HIV screening in the ANC services. The availability of counsellors and the examination tools supported the implementation process of the program. All PHCs claimed that they did not find any difficulties in implementing the HIV screening program because of their past experiences to offer high risk pregnant women to perform HIV testing at ANC services. Detailed aspects of the implementation process at the PHCs are listed below.

Most PHCs reported their activities on time. However there were some constraints in reporting the data due to duplicate tasks, poor internet connections and frequent errors when sending data through the national online database. Denpasar District Health Office conducted

Table 1 Aspects the HIV Screening at ANC settings at the PHCs in Denpasar City in 2014

Process Aspect	PHC (%)	Notes
Registration	All (100%)	Pregnant women registered, then were directed to the ANC section, the payment system was adjusted to the status of pregnant women as either general patients or those who had health insurance.
HIV screening Flow	7 PHCs (64%)	The ANC patient was then referred to the laboratory, and returned to the ANC section.
	3 PHCs (27%)	The ANC patient was then referred to the VCT section for an HIV test offer, then referred to the laboratory, then returned to VCT to open the results, and returned to the ANC section.
	1 PHC (9%)	The ANC patient is then referred to the laboratory, and returns to ANC section. If reactive is referred to VCT for in-depth counselling.
Pre and post test counseling		
By midwife in ANC section (pre and post test)	7 PHCs (64%)	In some PHCs, midwives were trained as counsellors, so when there were reactive pregnant women, there was no need to get another VCT counsellor.
By midwives (pretest) and VCT counselors (post test)	3 PHCs (27%)	
By midwife in ANC section, if reactive result, post counseling by VCT counselor	1 PHC (9%)	
Blood examination process	All (100%)	The examination was done in the laboratory room with rapid test, so the results could be detected in 10 minutes.
HIV testing process at PHC satellites services		
The officer refers to pregnant women to the PHC	3 PHCs (27%)	PHC satellite service sends the blood of pregnant women to the PHC, which transfers the blood sample to laboratory officer at the PHC. Transportation costs were not covered, but blood delivery was integrated with other activities such as report submissions and the like.
Officers send the blood of pregnant women to the PHC	2 PHCs (18%)	
Staff refer pregnant women or deliver blood samples to the PHC	5 PHCs (46%)	
There is no PHC satellite service	1 PHC (9%)	
The HIV testing process at private midwives services		
The officer refers pregnant women to the PHC	3 PHCs (27%)	PHC satellite service sends the blood of pregnant women to the PHC, which transfers the blood sample to laboratory officer at the PHC. Transportation costs were not covered, but blood delivery was integrated with other activities such as report submissions and the like.
Officers send the blood of pregnant women to the PHC	4 PHCs (36%)	
Officers refer pregnant women or pregnant women's blood to the PHC	4 PHCs (36%)	
Referrals to hospital	6 PHCs (54.5%)	Pregnant women tested HIV+ were referred to hospital services with PMTCT facilities in Denpasar City or according to the area of origin of pregnant women. Referral financing was adjusted to the status of pregnant women as a general patient, JKN or JKBM health insurance card holder.
Feedback from hospital	6 PHCs (54.5%)	Feedback was usually via phone by outreach staff who support pregnant women.

monitoring activities twice in 2014 and covering all aspects of inputs, processes and outcomes of the program.

Output

Table 2 presents the result of HIV screening implementation in 2014. The estimated pregnant mothers

in 2014 in Denpasar were 19,532. The targeted pregnant mothers being offered for HIV testing was 11,719 but only 5,029 (43.0%) being offered by PHCs with 4,921 (98.0%) underwent for HIV testing. Seventeen pregnant mothers (0.35%) were found HIV positive with 14 of them were referred to ART services.

Table 2 Output Aspects in the HIV Screening at ANC Settings at the PHCs in Denpasar City 2014

Output Aspects	Amount
Pregnant mothers being offered HIV test	5,029 (43.0% of 11,719 pregnant women)
PHC coverage of offering testing (n=11)	
<30%	4 PCHs (36.0%)
30-59%	4 PCHs (36.0%)
≥60%	3 PCHs (28.0%)
Coverage of HIV testing	4,921 (98.0% of those offered)
100%	8 PCHs (72.0%)
<100%	3 PCHs (28.0%)
Pregnant mothers tested HIV+	17 (0.35%)
HIV+ mothers referred to ARV services	14 (82.4%)
Mothers giving birth	8 (57.1%)
Live births	8 (100.0%)

Table 3 Barriers to the Implementation of HIV Screening at the PHCs in Denpasar City 2014

Aspect	Obstacle
Input	<ol style="list-style-type: none"> Not all private midwives were active in carrying out HIV screening program among pregnant women at their ANC activities. Of the 68 private midwives registered at the PHCs, 51 midwives (75%) participated actively in this program. Duplicate positions of PHC officers were 2 to 3 dual responsibilities. There was no allocation of funds for the cost of referral test transport from PHC satellite services and private midwives to PHC. The focus of HIV screening program among pregnant women was carried out at PHC, satellite services and private midwives. Pregnant women who came seeking ANC services at the PHC and satellite service represented only part of the target calculation of pregnant women in the city of Denpasar. This was because in urban areas many pregnant women seek ANC services from private midwives and obstetricians.
Process	<ol style="list-style-type: none"> Pregnant women who referred to PHC by PHC satellite and private midwives were often lost to follow up. Blood sampling for HIV screening from satellite service and private midwives was sometimes incorrectly conducted. There were husbands who did not allow their wives to test for HIV because they may already be at risk and did not want to know their HIV status.

Barriers

From the aspect of input and process, program could be deemed successful. However, there were various obstacles occurred during the HIV screening program in PHCs which are outlined in Table 3 below.

DISCUSSION

From a total of 11,719 pregnant mothers who should be offered HIV screening, only 5,029 were actually offered HIV testing (43%) by the health providers at ANC settings. The uptake for HIV testing was extremely high as 4,921 out of 5,029 pregnant women were tested for HIV (98%). However, when we compared the achievement of ANC first visit in Denpasar City (19,531 pregnant women)

with the actual pregnant women who received HIV testing (4,921 pregnant women or 26%), the disparity was considerable. Furthermore, this percentage was lower than the results of the epidemiological review for Bali in 2015 (42%).¹⁰

The results of the evaluation show that the HIV screening in ANC settings in Denpasar have been well implemented with the sufficient support from the input aspects. Firstly, the existing human resources at the level of district health office and in each PHC were sufficient, both in type and quality. Each PHC had a counsellor who was able to provide pre and post HIV testing counselling. Some midwifery coordinators were also counsellors, so the counselling process could be done directly in the ANC facility. The high proportion of pregnant women underwent HIV screening of all being

offered indicates that they received satisfactory counselling and information from staff, therefore were willing to take an HIV test. Deressa¹¹ suggests psychosocial aspects are an important factor for pregnant women undergoing HIV testing, which can be achieved by providing sufficient information and appropriate counselling. The lack of counsellors and poor standard of counselling would be an obstacle for pregnant women to participate in HIV testing.¹¹

Secondly, material or logistics, as one of the input aspects in the program which included examination equipment, consumables, reporting and referral forms, appeared to be adequate. Even in instances where there were materials or reagents that ran out, these were immediately ordered to the health office or borrowed from another PHC, through an official lending procedure established by the district health office. Medley¹² found that maintaining logistics supply was a challenge for HIV screening so availability of the logistics is need to be ensured consistently.

Though supported by relatively sufficient health human resources, materials and other logistics, there were several factors which might contribute to the large disparity of the outputs. Firstly, not all pregnant women in Denpasar went to PHCs for ANC, as there were other options such as obstetricians, private midwives and private clinics. Even though 75% private midwives in Denpasar (51 of 68 midwives) have participated actively in this activity, those who had ANC at midwife practices still had possibilities for not being offered to have HIV testing. Network strengthening for private midwives is therefore crucial to ensure active involvement. This can be done by re-implementing information dissemination and training on PMTCT activities for private midwives. In addition to network expansion, incorporating obstetrician would need to be improved in order to achieve optimum outcomes.

Furthermore, multiple duties and positions of staff at the PHCs was also one of the obstacles to the program implementation, so it was unlikely that all pregnant women were offered HIV screening. PHCs should be able to empower other service personnel or even ANC cadres to assist HIV testing services.¹³ In addition, the limited numbers of pregnant women being offered HIV screening might also be associated to the convoluted referral systems from both PHCs satellite services and private midwives to PHCs at subdistrict level. Officers were able to send blood samples to the PHC or refer the pregnant women to come to the HIV test themselves. Referring pregnant women to the PHC could cause a number of pregnant women lost to follow up or never presented for HIV testing, although during counselling they had agreed to conduct a test.

This might occur due to the distance and time of the PHC services so that pregnant women did not come to the PHCs. Larsson et al¹⁴ found that the lack of onsite HIV testing services and distant ANC facilities lead to missed opportunities for PMTCT. Given the different referral systems in each PHC, it was necessary to establish a joint agreement between the district health office, PHCs and its networks to develop an effective referral system. Larsson et al¹⁴ suggests that the HIV test referral system should be mainstreamed to a lower level of service, as recommended by WHO, which ensures the policies to be more effective and reachable by all implicated parties. Then the development of a guidebook of HIV test referral in pregnant women in PHC is needed so that the number of pregnant women who lost can be lowered.^{15,16}

Lastly, the other factor which might influence the lost to follow up was the role of husband in the decision making process among pregnant women. Interview with midwives showed that there were husbands who did not allow their wives to test for HIV because they may already be at risk and did not want to know their HIV status. A study conducted by Sutarsa and Septarini¹⁷ suggests that there were pregnant women who depended to their husband, including in accessing the HIV services. Husband is the main decision maker in Balinese marriage, hence most women need to get permit from their husband to have HIV screening.¹⁷

There were two main limitations of the program evaluation. First, this evaluation did not involve the PHC satellite services, private midwives and obstetrician thus data related to counselling and referral process in those practices has not been explored. Second, the quality of counselling performed to pregnant women was also not assessed.

CONCLUSION

Based on the evaluation of the first year implementation of the program, it can be concluded that the input aspects of the implementation of PMTCT activities at the PHC in human resources, fund, and material were sufficient. Of all registered private midwives, approximately 75% of them were actively involved. However, obstetrician and private clinics were yet to be engaged. Strengthening the existing network with private midwives needs to be done more intensely by conducting training and re-promotion. Network expansion to obstetrician and private clinics also needs to be improved in order to achieve maximum uptake. To reduce loss of pregnant women who have been willing to perform HIV testing at PHCs, it was necessary to streamline the referral systems. The role of husband as one of the

obstacles, the quality of counselling in PHCs, and the process of counselling and referral system in private midwives and PHC satellites need to be explored further in the future studies.

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