POLICY **BRIEF**

HATI

Study on HIV Awal (Early) Test and Treat Indonesia

KEMENTERIAN KESEHATAN REPUBLIK INDONESIA

GERMAS
Gerakan Masyarakat Hidup Sehat

Australian Government

World Health Organization

Kirby Institute

UNSW SYDNEY

Background to HATI study

Indonesia has reported a high number of new HIV infections, but the cascade of HIV testing and treatment uptake is low. There is an urgent need to find the most suitable intervention to improve the treatment cascade. HIV Awal (early) Test and Treat study (HATI study) introduced and evaluated five novel interventions: Oral Fluid Test (OFT), Simplified ART Initiation (SAI), Community-based Organisation (CBO) services, SMS Reminder, and Motivational Interviewing (MI), to increase coverage of HIV testing and treatment among men who have sex with men (MSM), female sex workers (FSWs), transgender, and people who inject drugs (PWIDs) in Jakarta, Bandung, Bali, and Yogyakarta.

Key findings

This prospective implementation study found that in general HATI interventions improved the cascade of HIV care, particularly HIV-positive patients initiating ART and those retained on ART 6 months after ART initiation. OFT was effective at improving HIV testing uptake among those who did not want to take HIV testing at health facility. The SAI intervention overall increased ART initiation from 70% to >85%, and increased immediate ART initiation from 3% to 37%. The CBO intervention increased number of key population to take HIV test and retest. This intervention also proves the feasibility of conducting community ART. We also found >79% HATI patients participated in the SMS reminder intervention, 65% of whom were retained on ART 6 months after ART initiation. Finally, the proportion of HIV patients initiating ART in the MI intervention group was higher than those not exposed to MI (92% vs 64%); of the 70% still on ART, adherence was 5% higher in the intervention group compared with those not exposed to MI.

Recommendations

We recommend making OFT more widely available to key populations including clients of FSWs, in order to improve HIV testing uptake. Health care providers will require training and support on the new MoH guidelines on SAI. Providing outreach HIV testing and ART initiation at CBOs or other community-based settings will also improve access to care for key populations. SMS reminders although helpful, may be inadequate at retaining patients in care as a single intervention, and other strategies are needed in parallel. While MI improved ART initiation, it may be difficult to implement it in routine services without strong support from a counsellor or psychologist.

EXECUTIVE SUMMARY

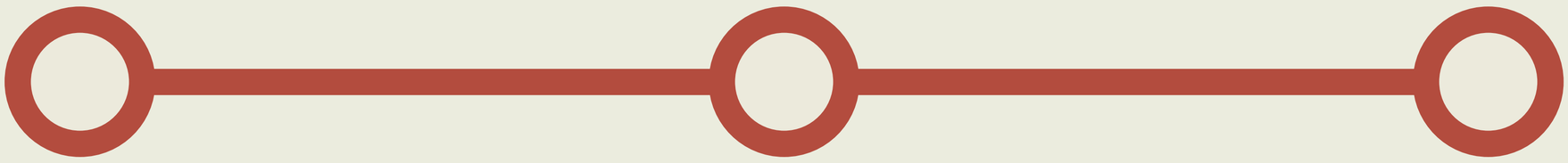
BACKGROUND

Low uptake of HIV testing and treatment in Indonesia

Indonesia is one of several countries in the world reporting the high number of new HIV infection. In 2014, the cascade of HIV treatment in Indonesia was considered to be low. It was estimated that of 590,000 people living with HIV/AIDS, only 188,284 who were being diagnosed and reported, 141,360 were on treatment, and only 42,411 who were still on ART (MoH, 2014). During 2014, HIV transmission was still dominated by men who have sex with men and female sex workers. Despite many policies and HIV prevention and treatment program have been issued and implemented, it is strongly required to find the most suitable intervention to increase the low treatment cascade.

The HATI collaboration was established to investigate new solutions

In 2015, a collaboration research between Atma Jaya Jakarta, Universitas Padjajaran/Hasan Sadikin Hospital Bandung, Universitas Gadjah Mada Yogyakarta, Udayana University/Yayasan Kerti Praja Denpasar Bali, The Kirby Institute, University New South Wales Sydney Australia, WHO Indonesia, and Ministry of Health was initiated in order to: 1) document the HIV service and treatment cascade as routinely performed via the Phase 1 baseline cohort ; 2) determine the interventions to increase treatment cascade using qualititative research methods; 3) implement those interventions in the Phase 2 cohort; and 4) analyze and evaluate the results of interventions. The study also involved key population stakeholder representatives as implementing partner NGOs. This multi-site research was called HATI Study, HIV Awal (early) Test and Treat Indonesia. The study comprised the following time line and phases:



2015-2017
Observational phase and qualitative study

2018
Intervention phase

2019
Follow up phase and manuscript writing

HATI phase 1: baseline cohort and formative research

HATI study phase 1 used an observational cohort method to recruit and follow up on men who have sex with men, female sex workers, PWID with HIV across 4 study sites (Jakarta, Bandung, Yogyakarta and Denpasar). The purpose of the baseline cohort was to serve as a comparator for the evaluation of the interventions. During the period from 15 September 2015 to 30 September 2016, 831 participants enrolled in the baseline cohort, consisting of 637 MSM (77%), 116 female sex workers (14%), 27 trans gender (3%), and 51 PWID (6%). Of them, 703 (84.6%, 95% CI 82.1-87.1) were on ART and 606 participants have started ART (86.2%, 83.7-88.8). Of participants who have started their ART, 457 (75.4%, 71.8-78.9) were still on treatment (retain), in which 325 of them (71.1%, 66.7-75.2) tested for viral load after 6 months recruitment, and based on early cohort, 294 of them (90.5%, 86.7-93.4) had VL suppression. Of 606 participants who started their treatment, 146 (24%) were lost to follow up. The results of study phase 1 have been published in Lancet Infectious Disease Journal entitled "The cascade of HIV care among key populations in Indonesia: a prospective cohort study" (Januraga et al., 2018).

HATI qualitative research identified new interventions to be evaluated

Based on the results of qualitative research with key populations and systematic review of studies from other settings, it was agreed that 5 novel interventions should be implemented and evaluated in the phase 2 aiming at: 1) increasing the coverage of HIV test; 2) increasing the coverage of ART initiation; 3) and increasing the coverage of treatment retention. Those 5 model of interventions included: 1) Oral Fluid Testing (OFT); 2) Simplified ART initiation (SAI); 3) SMS Reminder; 4) Community-based Test and Treatment; and 5) Motivational Interviewing (MI). The detail of those 5 interventions is presented in Table 1.

Table 1. The detail of 5 interventions

No	Intervention	Target	Study
1	OFT (Oral Fluid Testing)	MSM	Denpasar
2	SAI (Simplified ART Initiation)	All key populations	Bandung, Yogyakarta,and Denpasar
3	CBO (Community-Based Organisation) Services	MSM, transgender, FSW	Yogyakarta
4	SMS Reminder	All key populations	Jakarta, Bandung, Yogyakarta, and Denpasar
5	MI (Motivational Interviewing)	PWID	Jakarta and Bandung

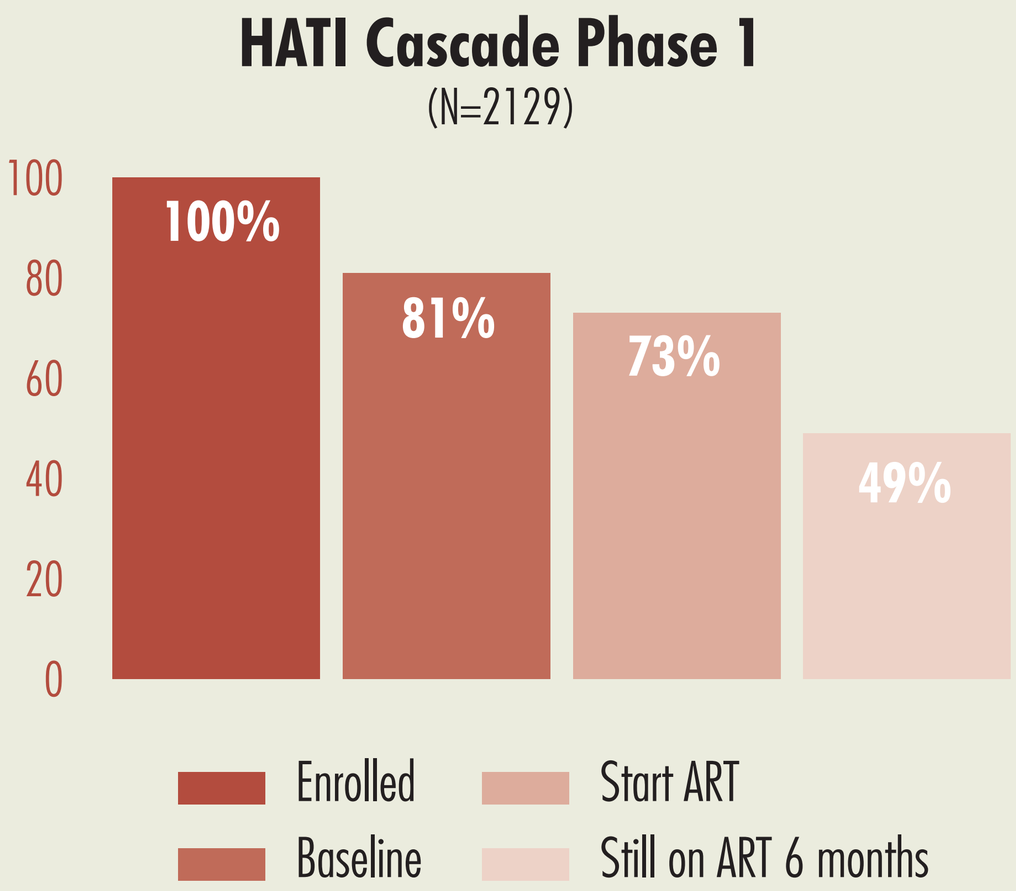
FINDINGS
FROM IMPLEMENTATION OF HATI PHASE 2 INTERVENTIONS

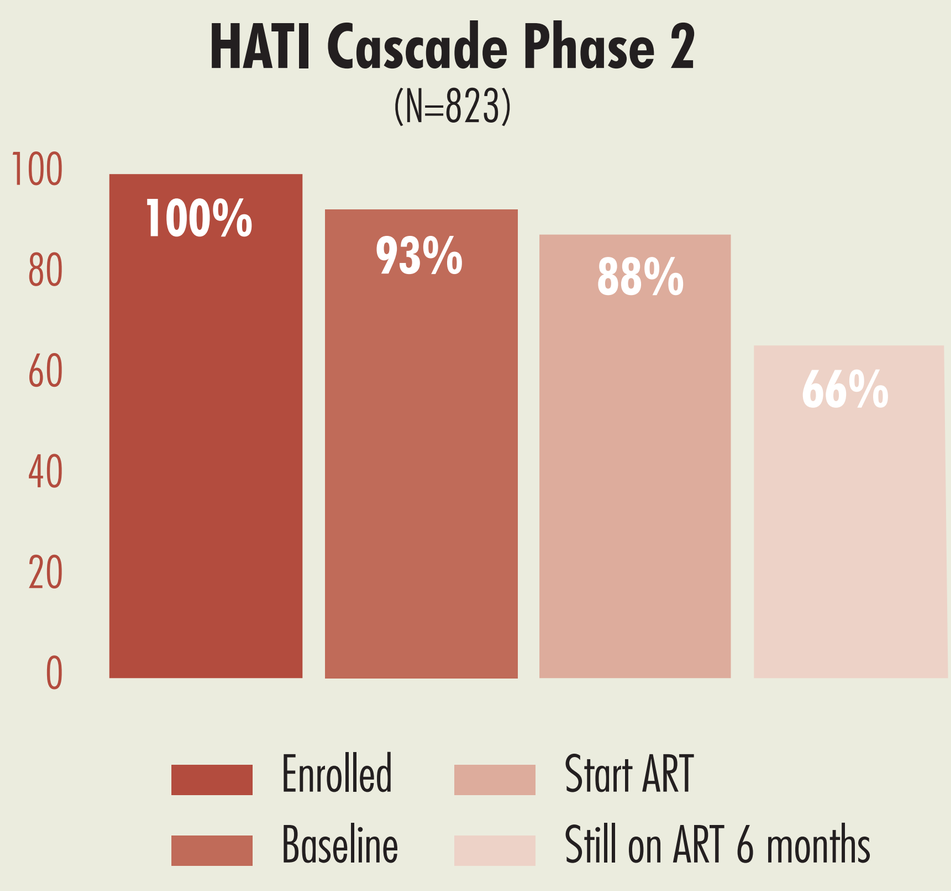
The observational phase (Phase 1) was continued after the above mentioned publication (Januraga et al., 2018) and ended on December 2017 with a total recruitment of 2,129 participants. The intervention phase (Phase 2) was implemented from January to December 2018 with a total recruitment of 823 participants.

1.HATI cascade before and after the interventions

The purpose of HATI study was to improve cascade of care of HIV in Indonesia by increasing the coverage of HIV test, coverage of ART initiation, coverage of treatment retention, and proportion HIV patients with VL suppression.

Graph 1. HATI cascade before and after the interventions





Graph 1 showed that HATI intervention improved cascade of HIV care in Indonesia. The percentage of HATI participants who started ART increased from 73% (Phase 1) to 88% (Phase 2). This was also followed by the improvement of treatment retention 6 months after ART initiation from 49% (Phase 1) to 66% (Phase 2).

2.OFT (Oral Fluid Testing)

Design

The purpose of intervention offering oral fluid test (OFT) was to increase HIV testing uptake. This intervention was conducted only in Denpasar (Bali site) and specifically applied for MSM population. The OFT study aimed to evaluate whether OFT intervention could increase the coverage of HIV test and ART among MSM in Denpasar. To implement this intervention, an outreach worker met targeted key population and offered HIV test as usual. If the client refused it, they will be offered to test HIV using OFT with two options, supervised or unsupervised. Once

the OFT test is reactive, the client was referred to health facility to do standard HIV test to confirm the result.

Findings

- 813 MSM accepted OFT, consisting of 756 were supervised (93.0%) and 57 were unsupervised (7.0%).
- 83 people (10.3%) result was reactive.
- 52 of them (62.7%) attended to clinic to do confirmatory test.
- 47 people (90.4%) were confirmed HIV positive.
- 43 patients (91.5%) participated in the study and registered into HIV cohort of HATI study and 37 (88.4%) of them have received ART.

Implication

The results showed that OFT improved HIV testing uptake among those who did not want to take HIV testing at health facility. Therefore, a policy is required to make the test available and to scale up this approach to increase the HIV testing uptake.

3.SAI (Simplified ART Initiation)

Design

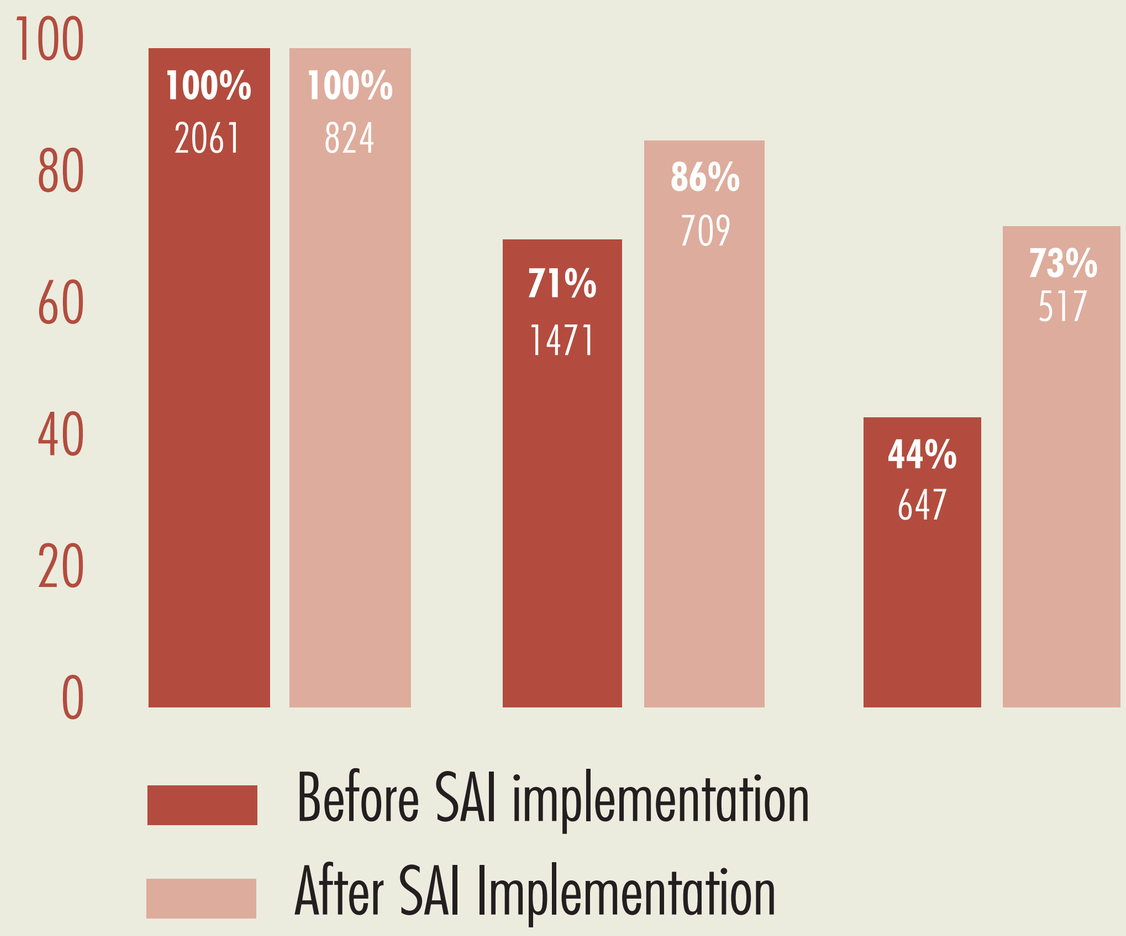
SAI eliminated the requirement for undertaking complete laboratory examination before initiating ART, so patients may start their ART with FDC regimen at the same time with HIV diagnosis. Patients will have creatinine level examination two weeks (14 days) after initiating ART to evaluate renal function after tenovofir exposure. SAI is effective to be applied for patients with the following conditions: 1) do not have Tuberculosis (TB) based on TB screening form from the Ministry of Health, RI (coughing for 2-3 weeks or more, fever more than one month, night sweating without clear cause, down weight without clear cause and enlargement of lymph gland more than 2 cm); 2) on HIV 1 and 2 stadium; 3) aged less than or 50 years old; 4) has normal BMI (body mass index) (≥ 18.5 kg/m2); 5) no known or uncontrolled diabetes mellitus; and 6) has normal blood pressure (≤ 140 mmHg).

The purpose of SAI intervention was to increase uptake of ART initiation and to reduce lagging time between testing positive and starting treatment. This intervention was conducted in Bali, Bandung, and Yogyakarta with MSM, FSWs and transgender population as the target group.

Findings

- In the Phase 1 (before SAI implementation):
- Among 2,061 participants of HATI study in Bandung, Bali, and Yogyakarta, 1,471 (71%) patients started their ART and 635 (44%) patients still on ART at HATI study site during the observation period.
- 48 patients (3%) initiated ART at the same day of being diagnosed of HIV.
- 238 patients (16%) initiated ART 1 – 3 days after being diagnosed of HIV.
- 315 patients (21%) initiated ART 4 – 7 days after being diagnosed of HIV.
- 870 patients (59%) initiated ART more than 7 days after being diagnosed of HIV.

Graph 2. The ART initiation and retention before and after SAI intervention



In the Phase 2 (implementation of SAI):

- Of 824 recruited participants during the intervention period, 709 (86%) patients started their ART and 517 (73%) patients still on ART at HATI study sites during the observation period.
- 261 patients (37%) initiated ART at the same day of being diagnosed of HIV.
- 153 patients (22%) initiated ART 1 – 3 days after being diagnosed of HIV.
- 110 patients (16%) initiated ART 4 – 7 days after being diagnosed of HIV.
- 185 patients (26%) initiated ART more than 7 days after being diagnosed of HIV.
- Of 423 patients tested, 93% of them had normal creatinine level (average (SD): 1.13 (3.85) mg/dL) and they could continue their FDC.

Graph 2 showed that SAI increased the coverage of patients to start their ART (from 71% to 86%) and their treatment retention (from 44% to 73%). The findings also showed that SAI intervention decreased the time between diagnosed of HIV and ART initiation. The creatinine level 2 weeks after ART initiation also showed a positive result, which is safe for the patients.

Implication

The result proved that removing the complete laboratory testing before initiating ARV (SAI) increased the percentage of patients who started ART and their ART retention. The patients could start ART at the same place where they are being diagnosed HIV even though that place has limited laboratory facility. Doctors and patients no need to be worry of the tenofovir side effect because its incidence was proven to be low, however, its monitoring still needs to be done, particularly for certain cases.

4.CBO (Community Base Organisation) Services

Design

Yogyakarta has several HIV care services provided by hospital or Primary Health Centre (PHC). Some PHC in Yogyakarta have conducted outreach service in collaboration with HIV-concren NGOs, such as Vesta, NGO Kebaya and Pasar Kembang brothel by providing mobile VCT at those NGOs. The result of HATI study during the observational phase showed that the coverage of patients starting their ARV was low (64%) and the delay to start treatment among people who were diagnosed HIV at mobile VCT service was also long (median: 19 days). Therefore, HATI study tested an intervention called community-based intervention in which the HIV testing and ART was conducted at the community and the same time. This service was in cooperation between NGOs/community with PHC. The blood taking for HIV test and ARV provision was done by health care provider, while in parallel the registration, counseling and other related non-medical things was done by the NGOs or community.

Findings

In Phase 1:

- The median time between testing and ART initiation was 19 days.
- The mean patients who started ART per month was 2 people.

In Phase 2:

- The median time between testing and ART initiation was 0 day (at the same time when they were diagnosed of HIV)
- The mean patients who started ART per month 6 people.

This community-based intervention has been conducted 25 times at NGO Vesta, 12 times at NGO Kebaya, and 12 times at Pasar Kembang brothel from January to December 2018. Total participant who participated in this activity was 696 and most of them were MSM (42%). This service not only successfully attracted key populations to do HIV test, but also non-key population (8%) and those who have not been exposed yet to HIV service (111 or 38% of MSM population and 9 or 11% of transgender population) to do VCT for the first time.

The median to start ART was 0 day (at the same time when they were diagnosed of HIV). During the service, Puskesmas and Universitas Gadjah Mada also did community empowerment and health promotion activities at those three

subsites. One of them was the implementation of Posbindu at Pasar Kembang brothel during the HIV service.

This community-based HIV service found 31 of 696 people (4.45%) were positive HIV and most of them have not started their ART yet (97%). Of participants who have been diagnosed HIV, most of them had willingness to start ART immediately at the community. The participants who did not start their ARV immediately at the community-based service were suspected to have Tuberculosis that require further examination at Puskesmas.

Implication

The community-based service has increased the coverage of people who started ART and decreased the time between testing and treatment. Even this service has attracted people who have not been exposed yet to HIV service, including general population to attend to the service and to do HIV test and this became a media to prevent other disease. The principle of confidentiality and providing explanation before starting ART was being kept during the implementation of health service that this made the participants started their ARV immediately at the community.

Table 2. Participants of community-based HIV care

Location	Total participant of VCT	MSM	FSW	Transgender	Non-key population
Vesta mobile	307	283	1	2	21
Pasar Kembang	288	0	266	0	22
NGO Kebaya	101	8	0	82	11
Total	696	291*	267	84*	54

Tabel 3. Positivity rate and ARV service at the community

Location	Total VCT	Total Positive	Naïve ARV	Starting ART	Starting ART immediately
Vesta Mobile	307	23	23 (7.49%)	21	21
Pasar Kembang	288	5	4 (1.39%)	4	3
NGO Kebaya	101	3	3 (2.97%)	3	2
Total	696	31	30 (4.45%)	28	26

5.SMS reminder

Design

SMS reminder intervention of HATI study provided support to HIV patients through SMS reminder service since the first day of ARV initiation up to 12 months with an aim to increase treatment adherence at early phase of treatment.

To participate in this intervention, patients who have started ART were being enrolled at a web-based application, then they received SMS reminder automatically according to their daily schedule of taking medicine, schedule of clinic visit, and a reminder if they do not go to clinic as scheduled. When they came to clinic to take ARV, their data were updated and SMS reminder was activated till the next schedule of visit. Those who did not come to clinic after receiving SMS, their data were not updated, then SMS service was stopped automatically (drop out). Those who wanted to stop receiving SMS could ask health care provider to stop it and keep continuing their treatment.

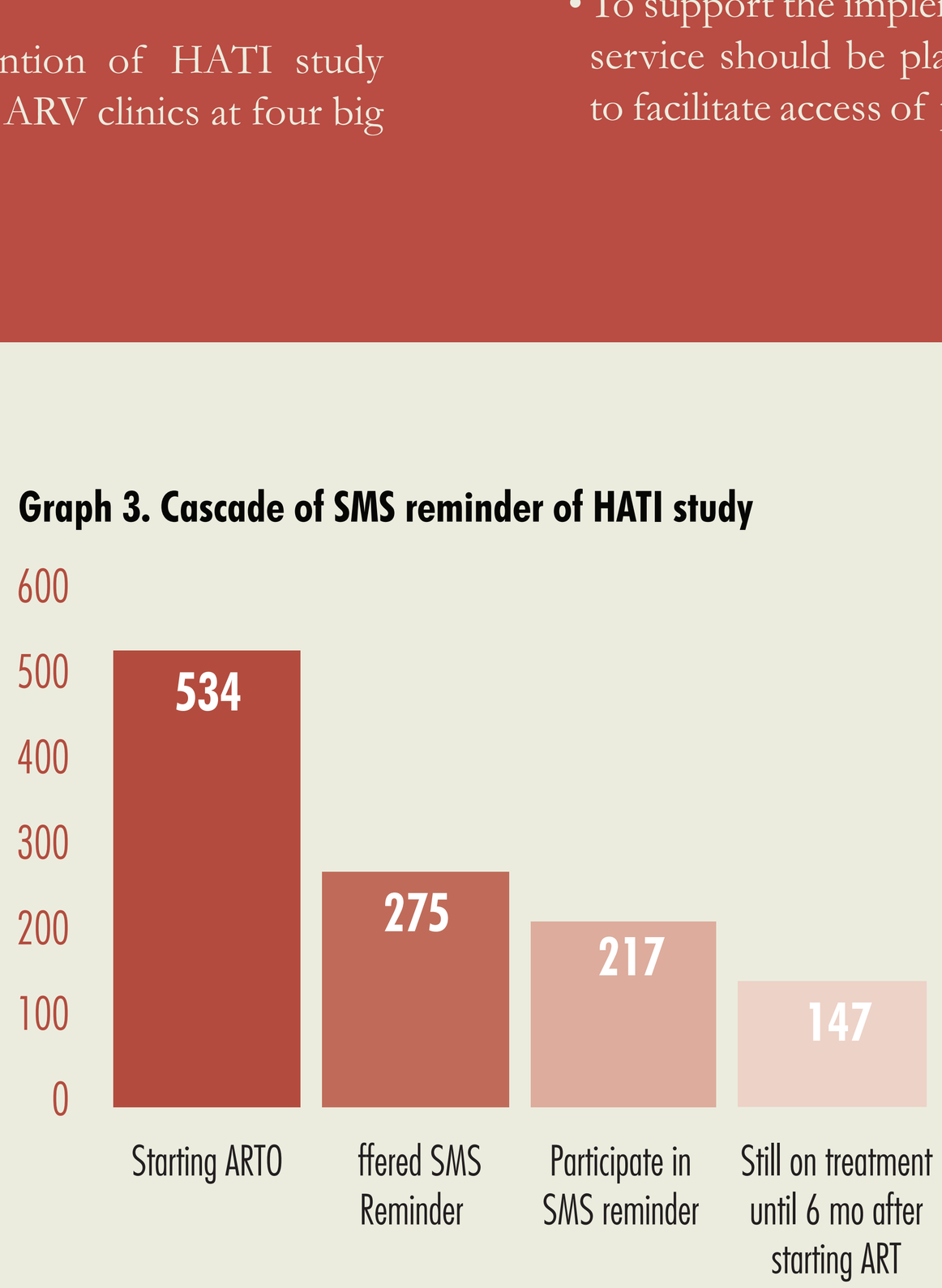
Findings

- SMS reminder intervention of HATI study was implemented in 13 ARV clinics at four big cities in Indonesia, consisting of 7 Puskesmas, 4 hospital and 2 community clinics.
- 275 out of 534 HATI patients who have started their ART during period January to September 2018, were offered SMS reminder.
- 217 HATI patients (79%) were willing to participate in SMS reminder.
- 147 HATI patients (65,4%) with SMS Reminder, still on treatment until 6 month after starting ART.
- Treatment dropout rates in the first 6 months of ART in patients without SMS Reminder were higher than patients with SMS Reminder, $p < 0.05$.
- ART drop out rates in the first 6 months in patients without SMS Reminder reached 46.7%, whereas in SMS Reminder patients was 34.6%.

Implication

- The intervention of HATI SMS Reminder can increase patient adherence in the initial phase of treatment which is considered important to determine the success of long-term therapy.
- To support the implementation, SMS reminder service should be placed at pharmacy section to facilitate access of patients to the service. IV.

Graph 3. Cascade of SMS reminder of HATI study



6.MI (Motivational Interviewing)

Design

The purpose of MI was to increase the cascade of ART initiation and adherence particularly on people with injection drug. MI intervention was began January 2018 at two Puskesmas in Jakarta and one clinic at Hasan Sadikin Hospital Bandung.

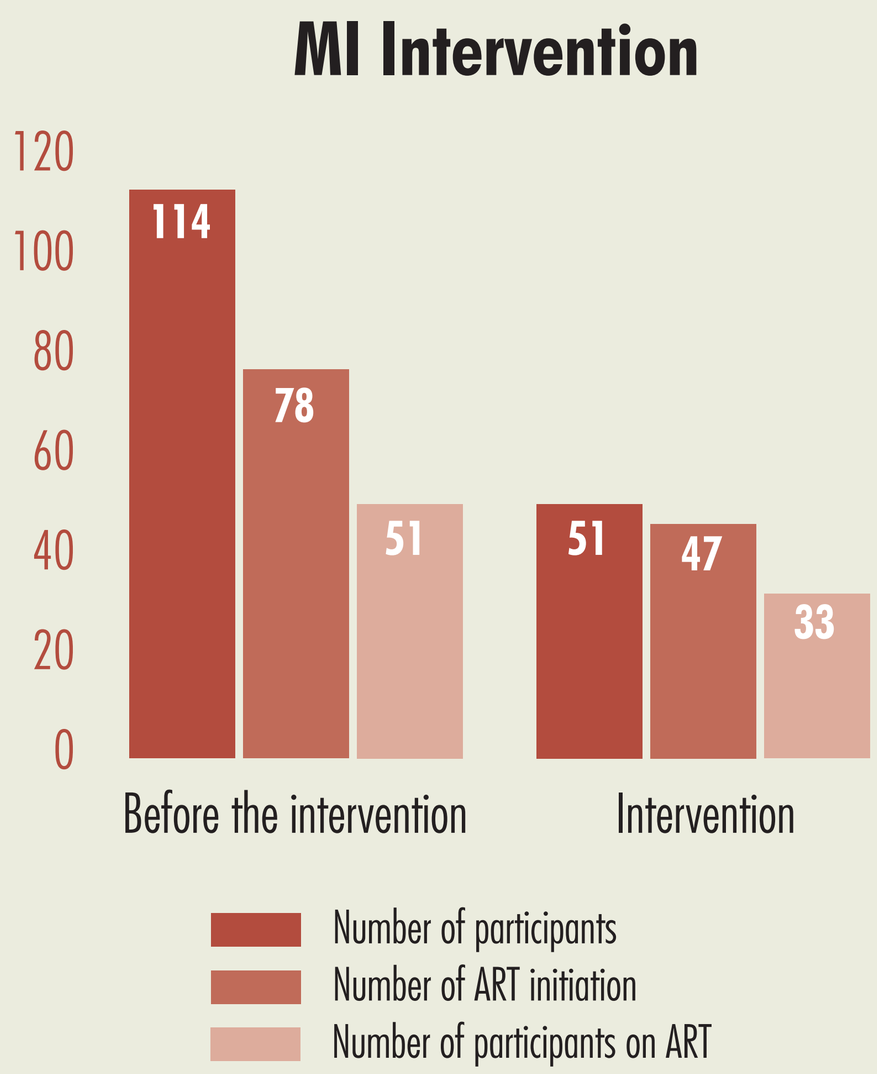
Findings

- 51 participants recruited for MI intervention.
- 92% participants more successfully started their ART rather than non-intervention group (64%).
- 70% who are currently on treatment and showed their commitment to their treatment.
- The adherence rate on the intervention group was 5% higher than non-intervention group

Implication

Counseling intervention using MI approach showed that there was a change in increasing ART initiation and slightly increasing on participants' commitment to adhere to their treatment. The qualitative data showed that MI approach was a brief and simple counseling that could be delivered by trained health workers. This approach also increased the interaction between health care providers and the participants and might be implemented to other patients. Although health care providers were able to practice counseling in increasing ART initiation significantly, it still needs time and counseling skill improvement to handle participants who have problem in their treatment adherence. Therefore, it would be more effective if there were a counselor or psychologist who specifically take in charge in providing adherence counseling to PWIDs.

Graph 4. The ART initiation and retention before and after MI intervention



Tabel 4. The number of participants, ART initiation and retention before and after intervention

	Phase 1			Phase 2		
	Enrolled	ART Initiation	Currently on ART*	Enrolled	ART Initiation	Currently on ART**
Jakarta	59	47	31	25	24	19
Bandung	55	31	20	26	23	14
Total	114	78 (68%)	51 (65%)	51	47 (92%)	33 (70%)

*at the end of recruitment phase December 2017
**until March 2019

RECOMMENDATION

1.OFT (Oral Fluid Testing)

- A policy is required to make the OFT available.
- To scale up OFT, particularly among key population including clients of female sex workers.

2.SAI (Simplified ART Initiation)

- Training for health care providers on new SAI guideline.

3.CBO (Community-Based Organisation) service

- Outreach HIV testing and ART initiation should be implemented at the community-based organisations or other similar settings.

4.SMS reminder

- SMS Reminder should be implemented in caution due to high drop out, particularly this should be offered to those with low social support at their early phase of ART.
- SMS Reminder service should be combined with counseling in order to maintain treatment adherence.

5.MI (Motivational Interviewing)

- MI should be implemented in caution in a wider scale because it needs a counselor or psychologist who specifically take in charge in providing adherence counseling.

REFERENCES

1. Januraga PP, Reekie J, Mulyani T, Lestari BW, Iskandar S, Wisaksana R, et al. The cascade of HIV care among key populations in Indonesia: a prospective cohort study. Lancet HIV [Internet]. 2018;5(10):e560–8. Available from: http://dx.doi.org/10.1016/S2352-3018(18)30148-6
2. Lazuardi E, Bell S, Newman CE. A 'scoping review" of qualitative literature about engagement with HIV care in Indonesia.' Sex Health. 2018;15(4):283.
3. Mukumbang FC, Van Belle S, Marchal B, Van Wyk B. Exploring "generative mechanisms" of the antiretroviral adherence club intervention using the realist approach: A scoping review of research-based antiretroviral treatment adherence theories. BMC Public Health. 2017;17(1):1–14.
4. World Health Organization. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection Recommendations for a public health approach - Second edition. 2016. p. 480. Available from: https://www.who.int/hiv/pub/arv/arv-2016/en/
5. Finitsis DJ, Pellowski JA, Johnson BT. Text message intervention designs to promote adherence to antiretroviral therapy (ART): A meta-analysis of randomized controlled trials. PLoS One. 2014;9(2).
6. Amankwaa I, Boateng D, Quansah DY, Akuoko CP, Evans C. Effectiveness of short message services and voice call interventions for antiretroviral therapy adherence and other outcomes: A systematic review and meta-analysis. PLoS One. 2018;13(9):1–20.