

## **VOLUNTARY HIV TESTING, DISCLOSURE, AND STIGMA AMONG INJECTION DRUG USERS IN BALI, INDONESIA**

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Recently, large increases have been noted in injection drug use and HIV prevalence in Indonesia. Because voluntary HIV counseling and testing can play an important role in HIV prevention, it is important to understand factors related to its use. The objective of this study was to identify factors related to the use of voluntary HIV testing among drug users. In-depth interviews were conducted with a sample of 40 drug users in the Denpasar area of Bali, Indonesia. Drug users may be interested in testing if they have enough information about AIDS to know that they are at risk and that they need this information to protect themselves and others from infection. Barriers toward testing included the fear of a positive result, fear of reactions from family and community members and stigmatization. Other obstacles include a feeling of hopelessness, problems with testing, unavailability and side effects of AIDS drugs and other factors. Many persons would not disclose their status to community members and sexual partners. There were serious concerns about others being ashamed of them and the impact of HIV on relationships with spouses and sexual partners and on employment.

The experience of Indonesia, the world's fourth most populous country, shows how quickly an epidemic can emerge (UNAIDS, 2002). After more than a decade of negligible HIV prevalence rates, the country is now seeing infection rates increase rapidly among injection drug users (IDUs) and sex workers, in some places along with an exponential rise in infection among blood donors (an indication of HIV spread in the population at large) (Wirawan, 2002). In 1987 the first AIDS case was found and seroprevalence remained low until 1999. In 2000 the number of AIDS cases tripled and this trend has continued (Ministry of Health, 2001). Recent studies of drug using communities have found seroprevalence rates of 40% to 53%, and those of sex workers are also increasing (6–26%) (Wirawan, 2002). The situation in Indonesia under-

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lines the fact that where risky behavior exists, the epidemic may spread, even if it takes some years for the spread to become apparent (UNAIDS, 2002).

### DRUG USE IN INDONESIA

Within the past 3 years, there has been a massive increase in injecting drug use in Indonesia, with at least 300,000 IDUs now estimated among its population of over 200 million. Heroin is the drug most often reported to be used by IDUs. The most common method of using the drug is injection, although "chasing the dragon" (a method of inhaling the drug while burning it underneath tin foil) has also been reported. At the same time, although the HIV infection rate in Indonesia is lower than in many countries, the majority of the recently reported cases have been among IDUs. Indeed, almost 90% of new cases of HIV/AIDS reported in 2000/2001 were among IDUs. Furthermore, in Bali and Java, rates of HIV infection among in-treatment drug users range from 10% to 50% (Wirawan, 2002). Although drug use is increasing in Indonesia, it is still heavily stigmatized among the general population.

A study was conducted in Denpasar, Bali, in 1998 among groups of drug users in the city of Denpasar and in the nearby tourist resort of Kuta (Setiawan et al., 1998). Most of the drug users in this study were male (88%), aged 20–29, with some high school education. About half were originally from Bali and the other half had moved from other Indonesian islands. About half of the respondents reported that they had been in jail. The most common first drugs used were marijuana (38%), barbiturates (35%), and heroin (15%). Almost all reported heroin to be the main drug that they currently use. About 85% reported injecting the heroin and 15% reported "chasing the dragon."

### BARRIERS TOWARD AND MOTIVATORS FOR HIV TESTING

There may be many obstacles blocking the use of HIV testing among drug users. Quantitative studies of drug users in the U.S. have identified a number of factors related to seeking testing. Variables related to health and illness as well as high-risk behaviors were most strongly associated with HIV testing (Davis, Deren, Beardsley, Wenston, & Tivtu, 1997). Other factors included perceived and actual risk of HIV infection (McCusker et al., 1994), previous negative test results, longer stay in drug treatment, and AIDS education programs (McCusker et al., 1997). A meta-analysis of 198 studies identified personal risk, counselor characteristics, confidentiality, and access to treatment to be important factors (Irwin, 1993). Sexual risk behaviors and injection drug use were strong predictors of testing in another study (Solomon, Moore, Astemborski, & Vlahovl, 1996).

In a study of 66 drug users in the San Francisco Bay area, multiple factors were found to be associated with the use of testing (Downing et al., 2001). Personal factors associated with obtaining HIV testing included self perceived risk of HIV infection. This perceived risk included not only the individual's risk behaviors but also an assessment of the environment. Protecting family members and the encouragement of peers were also important. Deterring factors included fear of receiving a positive result, lack of perceived risk, the stigma of HIV infection, and a partner with a negative result. Structural factors that were important in testing included the quality of the staff, incentives, convenience, links with other services, and site atmosphere.

Some gender differences in use of HIV testing have also been identified. Pregnancy may be an important motivating factor for women to seek HIV testing (Downing et al., 2001). In a study of gender differences in psychosocial and behav-

ioral predictors of HIV testing, Stein and Nyamathi (2000) found that social support was more important for women than for men and that men were more likely to underestimate their risk for HIV infection.

Stigma and discrimination may also prevent persons from being tested (Maman, Mbwapo, Hogan, Kilonzo, 2001; Spielberg, Kurth, Gorbach, & Goldbaum, 2001). Stigma and discrimination not only prevents persons from being tested but may also prevent individuals from obtaining treatment for AIDS. Stigma has been defined as an attribute "that is deeply discrediting" to a person in a social group (Goffman, 1963). Herek (1999) defined two types of stigma associated with AIDS; instrumental and symbolic. Instrumental stigma is linked to the real or imagined fear of getting the disease. Symbolic stigma is associated with activities such as promiscuity and illicit drug use that bear a large measure of social disapproval. As Parker and Aggleton (2002) have noted, there is a synergy between preexisting sources of stigma toward groups such as drug users that is linked to HIV and AIDS that limits our ability to develop effective responses to it.

In a study of voluntary counseling and testing in Tanzania, Kenya, and Trinidad, the investigators found that people perceived many benefits to HIV testing (Grinstead, Gregorich, Choi, & Coates, 2001; Sangiwa et al., 1998). Many people wanted to be tested and those who did were more likely to reduce unprotected intercourse. Negative effects of testing did occur, including physical assault (1.2%), abandonment (1.2%), and being forced to leave home (0.8%), although these were relatively rare in the study. The majority of both HIV-positive and HIV-negative women disclosed their results to their partners.

## OBJECTIVES

Although numerous studies on HIV testing and drug users have been conducted in the U.S., few studies have been conducted in Asia, and to our knowledge there are no published studies from Indonesia. Given the escalation of the epidemic in this country, an understanding of the factors that influence testing among drug users is essential for the further development of HIV-testing services in this area.

The objective of this study was to identify factors related to the use of voluntary HIV testing among drug users. A conceptual framework for the study was drawn from the health belief model (HBM). This model posits that individual's actions are based on beliefs (Rosenstock, Strecher, & Becker, 1994). This model identifies key elements of decision making such as the person's perception of susceptibility, perceived severity of the illness, and the perceived benefits and barriers to prevention.

## METHODS

The main methodology used to identify factors related to HIV testing was in-depth interviews. Forty drug users were interviewed face-to-face by two interviewers. Both interviewers had previous experience with qualitative data collection in Bali. The interviewers were native speakers who conducted the interviews in Bahasa Indonesia. Both interviewers used the same interview guides and procedures during data collection. Fieldwork was conducted from April through September 2002.

The drug users were recruited through the counselors and outreach workers through three community agencies that provide services to drug users. Fieldworkers from these organizations spoke to drug users about the study and invited them to participate. Both current and former drug users were included in the study. All of the drug users had injected heroin. Both groups were included because the majority of users

TABLE 1. Demographic and Drug-Using Characteristics of Sample

Variables	Frequency	Percentage of total population
Age groups		
< 25	17	42.5
25–29	13	32.5
30+	10	25
Marital Status		
Married	7	17.5
Divorced/separated	3	7.5
Not married	30	75
Gender		
Male	35	87.5
Female	5	12.5
Length of stay in Bali		
Since birth	14	35
1 month – < 6 months	6	15
6 months – < 1 yr	1	2.5
More than 1 year	19	47.5
Religion		
Muslim	23	57.5
Christian	10	25
Hindu	7	17.5
Education level		
Elementary	6	15
Junior high school	5	12.5
Senior high school	21	52.5
University	8	20

who have been tested have not been current users. Participants in these interviews were offered refreshments including cold drinks and food and free HIV testing at the Kerti Praja Clinic. The study was approved by the institutional review boards of the Kerti Praja Foundation and the University of Michigan.

Development of the questionnaire was guided by the constructs of the HBM. Drawing on the main constructs of the HBM, a number of open and close ended questions were included to identify factors associated with testing including perceived susceptibility toward AIDS, knowledge of AIDS, and the benefits and barriers toward HIV testing. Due to its importance in the literature, a few close ended questions on stigma and disclosure were also included. Finally, the questionnaire included a number of close ended questions on demographics including age and migration history, drug use history, sexual history, and AIDS and STD knowledge. These questions were included to provide a description of the study population.

Responses to open ended questions were reviewed in Bali by two native Indonesian speakers for common themes. Common themes were then coded into response categories. Each respondent was included in as many response categories as they reported.

## RESULTS

### DEMOGRAPHICS, DRUG USE, AND SEXUAL BEHAVIOR

Table 1 shows the demographic characteristics of the study sample. The study sample is mainly a young population with 42.5% under age 25, 32.5% aged 25–29,

TABLE 2. Sexual and Drug Use Behaviors of Respondents

	N	%
Drug use status		
Active user	20	50
Former user	20	50
Most common drugs ever used		
Heroin	40	100
Marijuana/hashish	36	90
Shabu-shabu/methamphetamine	31	77.5
Nitrazapan/Koblo/Nipan	24	60
Cocaine	15	37.5
Ecstasy	12	30
HIV-testing status		
Ever tested	19	47.5
Never tested	21	52.5
HIV status of tested persons		
Positive	9	47.4
Negative	10	52.6
At least one sex partner in last year	35	87.0
Mean sex partners in last year (Range)	4.3 (1-30)	
Paid partner in last year	10	29.0
Respondent paid	8	23.0
Respondent was paid	2	6.0
Sexual orientation of partners		
Heterosexual	34	97.0
Bisexual	1	3.0
Homosexual	0	0.0
Ever used a condom	34	85.0
Total N	40	100

and 10% aged 30 or older. Most were not married (75%); others were married (17.5%) or divorced or separated (7.5%). The majority of respondents were either born in Bali (35%) or had been there more than 1 year (47.5%). The majority of users were of the Muslim religion (57%), followed by Christians (25%) and Hindus (17%). More than 70% had at least some high school and 20% had been to the university.

Half of the sample were former drug users and half were active users (Table 2). The most common drugs used (reported by more than 30% of users) were heroin (100%), marijuana or hashish (90%), methamphetamine (shabu-shabu) (77%), nitrazepam (60%), cocaine (37%), and ecstasy (30%). Use of sedatives such as valium and lexothane was also reported along with other drugs such as rohypnol. Almost half of the sample had been tested for HIV (47%) and 47% of those persons were HIV-positive.

Most of the respondents (85%) reported at least one sexual partner in the last year. The average number of partners was 4.3 (range = 1-30). Ten of the respondents reported paid sex. Eighty percent of the drug users reported paying for sex rather than being paid (20%). Most partnerships were heterosexual, with only one respondent reporting partners of both genders.

#### BENEFITS OF HIV TESTING

The respondents were asked about the benefits of testing for drug users and their coded responses are shown in Table 3. The most often mentioned response was that they wanted to know their status (65%). The next most common responses related to

TABLE 3. Benefits of HIV Testing: Responses to the Question  
 “Why Do Drug Users in Bali Look for HIV Testing?”

Response	All (%)	Current Users	Former Users	HIV-Positive
Want to protect				
Their own health	32.5	15	50	66.7
Others from infection	35	20	50	44.4
Self from infection	22.5	30	15	11.1
Awareness of possible infection				
Want to know status	65	80	50	44.4
Ready to receive result	5	10	0	0
Think they may be positive	7.5	0	15	11.1
Showed symptoms of AIDS	5	0	10	11.1
Need to know for future plans including marriage and school	12.5	10	15	22.2
Participate in risky behavior (in general)	22.5	25	20	44.4
Sex with CSW or without condoms	10	20	0	11.1
Share needles	27.5	45	10	11.1
AIDS information				
Taught information about AIDS	17.5	5	30	44.4
Think AIDS can be spread by injecting drugs	5	0	10	22.2
Influence of others				
A friend asked them to get tested	5	10	0	0
To consult with doctors if HIV-positive	2.5	5	0	0
Required by drug rehab center	5	5	5	0
Don't know	7.5	10	5	0
Other reasons	7.5	5	10	22.2
Number of respondents	40	20	20	9

Note. CSW = commercial sex worker.

the protection of their own health (33%), to protect themselves from infection (22%), and to protect others from infection (35%).

Awareness of risky behavior was also given as a reason for interest in testing (23%). Other risky behaviors mentioned were sex with sex workers and sex without using condoms (10%) and sharing needles (27%).

Education about AIDS was reported as a motivator for HIV testing. The respondents reported that as drug users receive more information about AIDS (17%) and are aware that AIDS can be spread by injecting drugs (5%) they may be more interested in testing. They also noted that HIV testing is important to plan for marriage and education (12%).

The main reasons that drug users would want to be tested for HIV that were reported by current and former drug users were similar. Knowing one's status and protecting one's health and the health of others were the most important. Responses were also similar for HIV-positive respondents.

#### BARRIERS TOWARD HIV TESTING

Table 4 shows the responses to the question “Why do drug users avoid HIV testing?” The most important reasons given for avoiding testing were fear of a positive result (55%) and fear of death from AIDS (37%).

Stigmatization of HIV-positive persons was also a reported concern about HIV testing. Many respondents (40%) were concerned about stigmatization in general

TABLE 4. Barriers Toward HIV Testing: Responses to the Question  
 “Why Do Drug Users in Bali Avoid HIV Testing?”

Response	All	Current Users	Former Users	HIV-Positive
Fear of				
Positive result	55	55	55	55.6
Death from AIDS	37.5	30	45	44.4
Reaction from friends if positive	10	15	5	0
Family reaction if positive	7.5	0.0	15	22.2
Community reaction	10	0.0	20	44.4
Stigmatization	40	30	50	22.2
Feel ashamed about drug use	10	15	5	11.1
Will not reply to questions from others about status	2.5	5	0.0	0
No cure for AIDS	17.5	25	10	11.1
Can do nothing if positive	25	10	40	55
Too busy getting drugs	25	30	20	33.3
Concern about confidentiality	15	25	5	11.1
Lack of Understanding About				
HIV test	20	20	20	22.2
How AIDS is transmitted through drug use	15	5	25	44.4
Risk for others	5	5	5	0
Where to go for testing	7.5	15	0.0	0
Cost of testing	20	20	20	22.2
Problems with testing				
Long wait for result	2.5	0.0	5	0
Don't have anyone to go with for support	2.5	5	0.0	0
Hospital procedures are complicated	2.5	5	0.0	0
Don't like blood drawn	2.5	5	0.0	0
AIDS Drugs				
Are unavailable	2.5	5	0.0	0
Are expensive	5	0.0	10	11.1
Have side effects	2.5	0.0	5	11.1
Other Problems with Testing				
Don't believe test results	2.5	5	0.0	11.1
Don't want to be in an experiment	2.5	5	0.0	11.1
Don't want to use money for testing	7.5	15	0.0	0
Doctors will not help if positive	2.5	5	0.0	0
Don't want to think about testing	5	5	5	0
Believe they are positive so don't need to test	5	0.0	10	11.1
Number of respondents	40	20	20	9

(40%), whereas others mentioned the reaction of friends (10%), family (7%) and the community (10%).

The respondents also reported that the lack of a cure or effective treatment for AIDS was a barrier to HIV testing. Some (17%) mentioned that there was not a cure for AIDS and 25% responded that nothing can be done if someone has AIDS. Active drug users may also be too concerned about obtaining drugs to consider testing (25%).

Lack of information about AIDS and HIV testing may also be reducing the demand for HIV testing. Respondents reported that there was a lack of understanding about the HIV test (20%), how AIDS is transmitted through drug use (15%), the risk to others (5%), where to go for testing (7%), and the cost of testing (20%).

Several respondents reported problems with the testing process. These included a long wait for the result (2.5%), no one to go with for support (2.5%), complicated

TABLE 5. If Medication to Treat AIDS Were Available, Would Drug Users be Interested in Testing?

Response	Percent	Current Users	Former Users	HIV-Positive
Acceptance				
Medication would outweigh resistance to testing	40	30	50	55.6
Conditional Acceptance				
Only if the medication can cure AIDS	15	30	0	0
If the disease can be managed with medication	7.5	10	5	0
Media reports no cure so medication is not possible	2.5	5	0	11.1
Medication must be cheap or free	17.5	15	20	33.3
May have only a small effect on testing, barriers hard to overcome	22.5	20	25	11.1
Only if community is prepared to accept HIV-positive IDU	5	5	5	0
Would need more info on medication	2.5	5	0	0
Medication must have small side effects	2.5	5	0	0
Drug Use Status				
Active users are more concerned with drugs than their HIV status	10	5	15	11.1
May be more important for ex-users	2.5	0	5	0
Total	40.0	20.0	20.0	9.0

Note. IDU = injection drug user.

hospital procedures (2.5%), or a dislike of having their blood drawn (2.5%). Concerns about confidentiality may also be an issue (15%).

Other respondents thought that drug users would avoid testing because of negative information that they had received about AIDS drugs. These comments were that AIDS drugs were unavailable (2.5%), expensive (5.0%), or have side effects (2.5%).

Finally, drug users had a number of additional negative comments about testing including they don't believe test results (2.5%), they don't want to be in an experiment (2.5%), they don't want to use money for testing (7.5%), doctors won't help if positive (2.5%), they don't want to think about testing (5%), or they believe they are positive so they don't need to test (5%).

Most results were similar for former and current drug users and HIV-positive persons.

#### AVAILABILITY OF MEDICATION

Respondents were asked if the availability of medication would make drug users more interested in testing (Table 5). Many respondents thought that medication use would outweigh resistance to testing (40%). This was mentioned most often by former drug users (50%) and HIV-positive persons (56%). In contrast, other respondents thought that this would be conditioned upon whether the disease can be cured (15%) or managed (7.5%). More correct information from the media may be necessary (2.5%). The medication must also be cheap or free (17%) and have few side effects (2.5%). Also, the community must be ready to accept HIV-positive drug users (5%). A number of others thought that the availability of medication would only have a small effect (22%).

Drug use status may also influence the effect of the availability of medication on testing. It may be more important for ex-users (2.5%) than for current users (10%).

TABLE 6. Persons to Whom the Respondents Would Disclose Their HIV Status or Who Would Feel Ashamed of the Respondent

	Would Disclose To				Would be Ashamed Of			
	All	Current Users	Former Users	HIV-Positive	All	Current Users	Former Users	HIV-Positive
Your spouse	77.8	83.3	66.7	66.7	77.8	66.7	100.0	66.7
Your sexual partners	62.5	50.0	75.0	71.4	50.0	75.0	25.0	0.0
Your children	12.5	25.0	0.0	0.0	75.0	75.0	75.0	33.3
Your brothers	51.5	43.8	58.8	44.4	51.5	68.8	35.3	11.1
Your sisters	51.5	35.5	68.8	75.0	51.5	58.8	43.8	12.5
Your other relatives	55.0	45.0	65.0	77.8	55.0	70.0	40.0	22.2
Your friends	52.5	30.0	75.0	88.9	45.0	70.0	20.0	0.0
Your landlord	40.0	11.1	63.6	80.0	45.0	66.7	27.3	20.0
Your neighbors	0.0	0.0	0.0	0.0	57.5	60.0	55.0	44.4
Your religious leader	40.0	50.0	30.0	11.1	40.0	50.0	30.0	44.4
Your community leader	5.0	5.0	5.0	0.0	55.0	65.0	45.0	55.6
Your physician	92.5	90.0	95.0	88.9	5.0	5.0	5.0	0.0
Your employer	57.9	0.0	78.6	83.3	10.5	20.0	7.1	0.0
Other drug users	52.5	55.0	50.0	55.6	45.0	45.0	45.0	44.4
N	40	20	20	9	40	20	20	9

### CONSEQUENCES OF TESTING: STIGMATIZATION

The drug users who participated in the study were asked in two closed ended questions who they would disclose their status to and who would be ashamed of them (Table 6). Nearly all persons would disclose to their physician (92%) and most to their spouse (78%). More than half would disclose to their sexual partners (62%) and their employers (58%); relatives (52%), including brothers (51%) and sisters (51%); friends (52%); and other drug users (52%). Further down the list were landlords (40%) and religious leaders (40%). Few would tell their children (12%) and community leaders (5%). None of the respondents would tell their neighbors.

In general, HIV-positive persons reported that they would disclose to physicians, family members, spouses, friends, and sexual partners. However, they also reported that they would not tell their children, their neighbors, or their community leaders.

Apart from physicians and employers, the respondents reported that at least 40% of other persons would be ashamed of them. The drug users' spouse (78%) and children (75%) would be most likely to disapprove. HIV-positive persons reported that their spouse would be most likely to be ashamed of them (67%), followed by their community leaders (56%), their neighbors (44%), and their religious leaders (44%).

### CONSEQUENCES OF A POSITIVE TEST

In a close-ended question, respondents were asked what would happen if they received a positive test (Table 7). Likely negative effects included the breakup of sexual relationships (86%), estrangement by other drug users (82%), breakup of marriage (67%), and discrimination by employers (67%). A smaller proportion predicted being neglected (35%) or disowned (32%) by their family or physical abuse (26%) by a spouse or sexual partner.

Most also thought that they would receive positive support from a number of sources. Increased emotional support was expected from health professionals (97%),

TABLE 7. If You Tested Positive for HIV, How Likely Is It That The Following Would Happen?

Result	All	Former Users	Current Users	HIV-Positive
Negative Effects				
Breakup of marriage	66.7	66.7	66.7	66.7
Physical abuse by spouse/sexual partner	25.7	31.6	18.8	28.6
Breakup of sexual relationships	86.1	78.9	94.1	87.5
Neglected by family	35	30	40	44.4
Disowned by family	32.5	30	35	44.4
Discrimination by employers	66.7	100	56.3	33.3
Estrangement by other drug users	82.5	90	75	66.7
Positive Effects				
Increased emotional support from employers	90.5	80	93.8	100
Increased emotional support from peers	85	85	85	66.7
Strengthening of relationship with spouse/sexual partner	60	42.1	81.3	100
Increased emotional support from family/relatives	92.5	95	90	100
Increased emotional support from health professionals	97.5	100	95	100
N	40	20	20	9

family/relatives (92%), employers (90%), and peers (85%). Many also predicted a strengthening of their relationship with a spouse or partner (60%).

HIV-positive persons reported increased emotional support from health professional (100%), employers (100%), family/relatives (100%), and peers (67%). They also reported a strengthening of the relationship with a spouse/sexual partner (100%). Negative effects were the breakup of sexual relationships (87%), marriages (67%), and estrangement from other drug users (67%).

## SUMMARY AND DISCUSSION

This study has confirmed that a number of constructs relevant to the HBM were associated with HIV testing. AIDS knowledge and perceived susceptibility to the disease were identified in the interviews. In addition, a number of benefits and barriers toward HIV testing were described by the drug users. Drug users may be interested in testing if they have enough information about AIDS to know that they are at risk and that they need this information to protect themselves and others from infection.

A number of obstacles toward testing were also identified including the fear of a positive result, fear of reactions from family and community members and other problems with stigmatization. Other obstacles include a feeling of hopelessness, because there is no cure for the disease.

Additional issues included a lack of information about AIDS, problems with testing, lack of availability and side effects of AIDS drugs, and other factors. Opinions were divided among users as to whether the availability of drugs would increase the use of testing. Active drug users may be too concerned with obtaining drugs to consider these options.

Many persons would not disclose their status to community members and sexual partners. There were serious concerns about others being ashamed of them and the impact of HIV on relationships with spouses and sexual partners. Discrimination by employers was also a concern. On the positive side, respondents expected increased emotional support from employers, peers, and families.

Some factors related to HIV testing were similar to those obtained in other studies. These included perceived susceptibility to HIV, knowledge of risk behaviors, fear of a positive result, and concerns about confidentiality. The limited availability of information from the media may also be a factor.

The need for a better understanding of how HIV is transmitted and the options for treatment may be greater in this population due to the more limited services for drug users. Lack of certainty regarding the efficacy and availability of antiretroviral medications is a very serious concern in this area. Information is scarce among drug users and current availability is very limited. Efforts are being made by nongovernmental organizations, international groups, and government groups in Indonesia to improve this situation.

Programs in this area could help to promote HIV testing by increasing access to accurate information about AIDS in the drug-using population. Although outreach to users already exists, more information needs to be made available to users. This might be done by increasing outreach to these people, through media and through workplace, clinic, and community interventions. The availability of medication, combined with efforts to spread correct information, may also assist in increasing HIV testing.

Programs to increase the acceptance of HIV-positive persons in the community are also needed. As Parker and Aggleton (2002) have indicated, increasing the acceptance of HIV-positive drug users in the community is a difficult process that may need to include structural changes in the legal system as well as community mobilization.

In summary, there are a number of obstacles in the way of increasing HIV testing in Indonesia. Both individual and community-based interventions may be needed to accelerate the use of HIV testing.

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