



## Journal of Substance Use

Publish open access in this journal

Publishes on legal/illegal substances to educate health/social care professionals and families, including issues like prevention, treatment, and policy.



[Advanced search](#)
[Citation search](#)

[Publish with us](#)  
[Submit an article](#) ▾

[About this journal](#) ▾

[Explore](#)  
[Browse all articles & issues](#) ▾

[Latest issue](#)

[Subscribe](#)  
[Alerts & RSS feed](#) ▾

[+ Purchase a subscription](#)

### Journal overview

[Aims and scope](#)

[Journal metrics](#) >

[Editorial board](#) >

[Instructions for authors](#) >

**Journal of Substance Use** is a bimonthly international journal, publishing peer-reviewed, up-to-the-minute articles on a wide spectrum of issues relating to the use of legal and illegal substances.

The journal aims to educate, inform, update and act as a forum for standard setting for health and social care professionals working with

[Read full aims and scope](#)

### Explore articles

[Latest](#)

[Open access](#)

[Most read](#)

[Most cited](#)

[Trending](#)

Explore the most recently published articles

[The experiences of nurse managers working with substance-using nurses](#) >

Ebru Özen Bekar et al.

Article | Published online: 24 Jan 2023

[Impact of the COVID-19 pandemic on alcohol use and smoking habits](#) >

İsmet Çök et al.

Review | Published online: 23 Jan 2023

[Self-regulation, adaptive motivation, and alcohol consumption: understanding university students' motivation for drinking](#) >

Mansour Bagheri et al.

Article | Published online: 23 Jan 2023

Sample our  
Medicine, Dentistry, Nursing  
& Allied Health Journals

>> [Sign in here](#) to start your access  
to the latest two volumes for 14 days

HEALTH  
PSYCHOLOGY  
& BEHAVIORAL  
MEDICINE

[FIND OUT MORE](#) >

Submit your research to  
**cogent**  
**public health**

A fully open access journal

[Learn more](#) >

[Ex-smokers referred urgently to ENT: reasons for quitting and smoking cessation methods utilised >](#)  
Charles Dibor et al.  
Article | Published online: 17 Jan 2023

[View all latest articles>](#)

Latest issues

Recent issues

Current issue



Volume 28, Issue 1, 2023 >

List of issues >

Special issues >

Previous issue



Volume 27, Issue 6, 2022 >

Browse journals by subject

Back to top ^

- [Area Studies](#)  
[Arts](#)  
[Behavioral Sciences](#)  
[Bioscience](#)  
[Built Environment](#)  
[Communication Studies](#)  
[Computer Science](#)  
[Earth Sciences](#)
- [Economics, Finance, Business & Industry](#)  
[Education](#)  
[Engineering & Technology](#)  
[Environment & Agriculture](#)  
[Environment and Sustainability](#)  
[Food Science & Technology](#)  
[Geography](#)  
[Global Development](#)
- [Health and Social Care](#)  
[Humanities](#)  
[Information Science](#)  
[Language & Literature](#)  
[Law](#)  
[Mathematics & Statistics](#)  
[Medicine, Dentistry, Nursing & Allied Health](#)
- [Museum and Heritage Studies](#)  
[Physical Sciences](#)  
[Politics & International Relations](#)  
[Social Sciences](#)  
[Sports and Leisure](#)  
[Tourism, Hospitality and Events](#)  
[Urban Studies](#)

- [Information for](#)  
[Authors](#)  
[R&D professionals](#)  
[Editors](#)  
[Librarians](#)  
[Societies](#)
- [Open access](#)  
[Overview](#)  
[Open journals](#)  
[Open Select](#)  
[Dove Medical Press](#)  
[F1000Research](#)
- [Opportunities](#)  
[Reprints and e-prints](#)  
[Advertising solutions](#)  
[Accelerated publication](#)  
[Corporate access solutions](#)
- [Help and information](#)  
[Help and contact](#)  
[Newsroom](#)  
[All journals](#)  
[Books](#)

Copyright © 2023 Informa UK Limited   [Privacy policy](#)   [Cookies](#)   [Terms & conditions](#)   [Accessibility](#)

Registered in England & Wales No. 3099067  
5 Howick Place | London | SW1P 1WG



Keep up to date

Register to receive personalised research and resources by email

 Sign me up





Journal of Substance Use

This Journal

Advanced search Citation search

- Publish with us

Submit an article ▼
- About this journal ▼
- Explore

Browse all articles & issues ▼
- Latest issue
- Subscribe

Alerts & RSS feed ▼
- + Purchase a subscription

Ready to submit?

Start a new manuscript submission or continue a submission in progress

[Go to submission site](#)

Submission information

- [▶ Instructions for authors](#)
- [▶ Editorial policies](#)

Editing services

- [▶ Editing services site](#)

About this journal

- [▶ Journal metrics](#)
- [▶ Aims & scope](#)
- [▶ Journal information](#)
- [▶ Editorial board](#)
- [▶ News & call for papers](#)
- [▶ Advertising information](#)

Editorial board

Editor-in-Chief:

**Dr. Richard Pates**  
Visiting Professor of Psychology  
University of Worcester  
Henwick Grove, Worcester  
dr\_pates23@hotmail.com

Editorial Assistant:

Alison Kingdon  
2013jsu@gmail.com

Associate Editor: Europe

**Dr. Ana Adan Puig**  
Department of Psychiatry and Clinical Psychobiology  
School of Psychology  
University of Barcelona  
08035 Barcelona  
Spain  
aadan@ub.edu

Associate Editor: Sub-Saharan Africa

**Dr. Neo K. Morejele**  
Deputy Director  
Alcohol and Drug Abuse Research Unit  
Medical Research Council  
Private Bag X385  
Pretoria 0001  
South Africa  
neo.morojele@mrc.ac.za

Associate Editor: Reviews

**Dr. Bev John**  
Reader and Head of Research in Psychology  
School of Psychology  
University of Glamorgan  
Pontypridd, Rhonda Cynon Taff  
UK, CF37 1DL  
Wales, UK  
01443 65414501443 654145

Sample our  
Health and Social Care  
Journals

>> [Sign in here](#) to start your access  
to the latest two volumes for 14 days

**SOCIAL  
WORK IN  
HEALTHCARE**

ORCID **open**

[FIND OUT MORE](#)

**SOCIAL WORK**

[EXPLORE THE JOURNALS](#)

bjohn1@glam.ac.uk

**Associate Editor: Mental Health and Nursing****David N. Cooper**

Manton Court, Kings Road  
Horsham, RH13 5AE 30  
West Sussex, England, UK  
davidbcooper@btinternet.com

**Associate Editor: Performance Enhancing Drugs****Jim McVeigh**

Director, Public Health Institute, Liverpool John Moores University  
2nd Floor Henry Cotton Campus  
15-21 Webster Street  
Liverpool L3 2ET, UK  
j.mcveigh@ljmu.ac.uk

**Associate Editor: Pharmaceutical Issues****Dr. Richard Cooper**

Senior Lecturer in Public Health School of Health and Related Research  
Regent Court, Regent Street, University of Sheffield,  
Sheffield S14 4A, England UK  
richard.cooper@sheffield.ac.uk

**Associate Editor: Tobacco and Smoking****Dr. Sofia Ravara**

CICS-UBI-Health Sciences Research Centre, Faculty of Health Sciences  
University of Beira Interior  
Covilhã, Portugal  
sbravara@fcsaude.ubi.pt

**Associate Editor: Neuropsychiatry****Dr. John Ashcroft**

Consultant Neuropsychiatrist  
5 Gilleney Grove, Whiston  
Merseyside, UK  
johnrashcroft2206@yahoo.co.uk

**Associate Editor: College Drinking and Substance Use****Dr. Peter Vernig**

Friends Hospital  
4641 Roosevelt Blvd  
Philadelphia, PA 19124, USA  
pete@drvernig.com

**Associate Editor: Women's Issues****Dr. Diane Riley**

Consultant and psychotherapist  
1830, Unit 730, Bloor Street West  
Toronto, Ontario M6P0A2, Canada  
Rileydm@aol.com

**International Advisory Board**

**Nihaya Al-Sheyab**, Amman, Jordan

**Karin Anseline**, Hawks Nest, Australia  
**Qiana Brown**, Baltimore, MD, USA  
**Genie Christofili**, Athens, Greece  
**Robin J. Davidson**, Belfast, Northern Ireland, UK  
**Melanie C. Dreher**, Iowa, USA  
**Andree van Emst**, Utrecht, The Netherlands  
**Carmen Fernández-Cáceres**, Mexico City, Mexico  
**Stephanie Hartwell**, Boston, MA, USA  
**Susan Kerr**, Glasgow, UK  
**Pirkko Korkia**, Luton, UK  
**Pip Mason**, Birmingham, UK  
**Andrea L. Mitchell**, Berkeley, CA, USA  
**Jacek Moskalewicz**, Warsaw, Poland  
**Adam Nicholls**, Wales, UK  
**Airi L. A. Partanen**, Helsinki, Finland  
**Moiria L. Plant**, Bristol, UK  
**Andrew Preston**, Dorchester, UK  
**Chris Roberts**, Cardiff, UK  
**Gareth Roderique-Davies**, Wales, UK  
**Ricardo Sanchez Huesca**, Mexico City, Mexico  
**Paul Stoneman**, London, UK  
**Ian K. MacEwan**, Wellington, New Zealand  
**Jane A. Ward**, Frimley, UK  
**Mayyada Wazaify**, Amman, Jordan  
**Lucy Webb**, Manchester, UK

*Updated 23-10-2020*

Browse journals by subject

Back to top ^

- [Area Studies](#)  
[Arts](#)  
[Behavioral Sciences](#)  
[Bioscience](#)  
[Built Environment](#)  
[Communication Studies](#)  
[Computer Science](#)  
[Earth Sciences](#)
- [Economics, Finance, Business & Industry](#)  
[Education](#)  
[Engineering & Technology](#)  
[Environment & Agriculture](#)  
[Environment and Sustainability](#)  
[Food Science & Technology](#)  
[Geography](#)  
[Global Development](#)
- [Health and Social Care](#)  
[Humanities](#)  
[Information Science](#)  
[Language & Literature](#)  
[Law](#)  
[Mathematics & Statistics](#)  
[Medicine, Dentistry, Nursing & Allied Health](#)
- [Museum and Heritage Studies](#)  
[Physical Sciences](#)  
[Politics & International Relations](#)  
[Social Sciences](#)  
[Sports and Leisure](#)  
[Tourism, Hospitality and Events](#)  
[Urban Studies](#)

- [Information for](#)  
[Authors](#)  
[R&D professionals](#)  
[Editors](#)  
[Librarians](#)  
[Societies](#)
- [Open access](#)  
[Overview](#)  
[Open journals](#)  
[Open Select](#)  
[Dove Medical Press](#)  
[F1000Research](#)
- [Opportunities](#)  
[Reprints and e-prints](#)  
[Advertising solutions](#)  
[Accelerated publication](#)  
[Corporate access solutions](#)
- [Help and information](#)  
[Help and contact](#)  
[Newsroom](#)  
[All journals](#)  
[Books](#)

Keep up to date

Register to receive personalised research and resources by email

 Sign me up

  

 

Copyright © 2023 Informa UK Limited   [Privacy policy](#)   [Cookies](#)   [Terms & conditions](#)   [Accessibility](#)

Registered in England & Wales No. 3099067  
5 Howick Place | London | SW1P 1WG





Browse this journal

Latest articles

Current issue

List of issues

Special issues

Open access articles

Most read articles

Most cited articles

Sample our Medicine, Dentistry, Nursing & Allied Health Journals

>> Sign in here to start your access to the latest two volumes for 14 days

Journal of Substance Use, Volume 25, Issue 4 (2020)

<

Volume 25, 2020

Vol 24, 2019

Vol 23, 2018

Vol 22, 2017

Vol 21, 2016

>

See all volumes and issues

Issue 4

Issue 3

Issue 2

Issue 1

Download citations

Download PDFs

Download issue

Browse by section (All)

Display order (Default)

Research Article

- Article

Engagement in the Hepatitis C care continuum among people who use drugs >

Babak Tofighi, Selena S. Sindhu, Joshua D. Lee, Chemi Chemi & Noelle R. Leonard

Pages: 343-349

Published online: 01 Jan 2020

Abstract | Full Text | References | PDF (565 KB) | EPUB |

211 Views

1 CrossRef citations

4 Altmetric
- Article

Difficulties in treatment of people with comorbid gambling and substance use disorders >

Łukasz Wieczorek & Katarzyna Dąbrowska

Pages: 350-356

Published online: 29 Dec 2019

Abstract | Full Text | References | PDF (677 KB) | EPUB |

227 Views

2 CrossRef citations

1 Altmetric
- Article

Somatization, mental health and pain catastrophizing factors associated with risk of opioid misuse among patients with chronic non-cancer pain >

Sung-Jae Lee, Maryann Koussa, Lillian Gelberg, Keith Heinzerling & Sean D. Young

Pages: 357-362

Published online: 02 Jan 2020

Abstract | Full Text | References | PDF (507 KB) | EPUB |

222 Views

4 CrossRef citations

0 Altmetric
- Article

126 Views



Publish with us Explore Latest issue Subscribe + Purchase a subscription

Article	An exploratory research: factor structure and reliability of the Arabic version of the Assessment and Screening of Assistance Needs – Drugs (ASAN-Drugs) >	68 Views
Raghdah Tammar, Osama Alibrahim, Ahmed Attia, Stéphanie Laconi & Pierluigi Graziani		0 CrossRef citations
Pages: 367-371		Altmetric
Published online: 19 Dec 2019		
Abstract   Full Text   References   PDF (543 KB)   EPUB		
Article	Effectiveness of Acceptance and Commitment Therapy on self-criticism and feeling of shame in methamphetamine users >	446 Views
Zahra Ghaleh Emamghaisi & Seyyed Hamid Atashpour		3 CrossRef citations
Pages: 372-376		Altmetric
Published online: 24 Dec 2019		
Abstract   Full Text   References   PDF (436 KB)   EPUB		
Article	Client characteristics and substance use patterns in different models of methadone maintenance therapy (MMT) >	181 Views
Lillian MacNeill, Caroline Brunelle, Enrico DiTommaso & Brittany Skelding		1 CrossRef citations
Pages: 377-381		Altmetric
Published online: 16 Dec 2019		
Abstract   Full Text   References   PDF (445 KB)   EPUB		
Article	Creating meaning to substance use problems: a qualitative study with patients in treatment and their children >	370 Views
Turid Wangensteen, Astrid Halså & Jørgen G. Bramness		5 CrossRef citations
Pages: 382-386		Altmetric
Published online: 20 Jan 2020		
Abstract   Full Text   References   PDF (555 KB)   EPUB		
Article	Cue exposure therapy for treatment of stimulant (methamphetamine) use disorder: study protocol for a randomized controlled trial >	230 Views
Meghdad Talebizadeh, Fahimeh Fathali Lavasani, Parsa Bastani & Alireza Noroozi		0 CrossRef citations
Pages: 387-391		Altmetric
Published online: 06 Feb 2020		
Abstract   Full Text   References   PDF (745 KB)   EPUB		
Article	Drug-related problems among polysubstance and monosubstance users: a cross-sectional study >	120 Views
Medhat Bassiony & Dina Seleem		4 CrossRef citations
Pages: 392-397		
Published online: 30 Jan 2020		

Publish with us

Explore

Latest issue

Subscribe

+ Purchase a subscription

Pages: 398-404  
Published online: 06 Feb 2020  
[Abstract](#) | [Full Text](#) | [References](#) | [PDF \(896 KB\)](#) | [EPUB](#) |

Altmetric

Article  
[Second-hand exposure to aerosolized intravenous anesthetics \(fentanyl\) among anesthesiologists in Jordan](#) >

Shahd Al-Maaz, Rana Abu-Dahab, Mayyada Wazaify & Munir Shawagfeh  
Pages: 405-411  
Published online: 11 Feb 2020  
[Abstract](#) | [Full Text](#) | [References](#) | [PDF \(1459 KB\)](#) | [EPUB](#) |

123  
Views  
0  
CrossRef citations

Altmetric

Article  
[Sleep Quality in Prisoners with Substance Use Disorder \(SUD\) in Iran—a Cross-sectional Study](#) >

M. Chinichian & Z. B. Alemohammad  
Pages: 412-415  
Published online: 10 Feb 2020  
[Abstract](#) | [Full Text](#) | [References](#) | [PDF \(373 KB\)](#) | [EPUB](#) |

44  
Views  
0  
CrossRef citations

Altmetric

Article  
[Premenstrual syndrome as a risk factor for relapse in GHB dependent patients: a case series](#) >

Rouhollah Qurishi, Marieke Arts-De Jong, Victor J. A. Buwalda, Linda Hartman & Cornelis A. J. De Jong  
Pages: 416-420  
Published online: 10 Feb 2020  
[Abstract](#) | [Full Text](#) | [References](#) | [PDF \(846 KB\)](#) | [EPUB](#) |

79  
Views  
2  
CrossRef citations

Altmetric

Article  
[Prevalence of HIV infection and associated risk behaviors among people who inject drugs in Kermanshah, Iran: 2017](#) >

Koorosh Etemad, Asaad Sharhani, Peter Higgs & Hamid Gheibipour  
Pages: 421-424  
Published online: 11 Feb 2020  
[Abstract](#) | [Full Text](#) | [References](#) | [PDF \(373 KB\)](#) | [EPUB](#) |

59  
Views  
1  
CrossRef citations

Altmetric

Article  
[Sleep quality and the problems in smokers and nonsmokers: a comparative study](#) >

Azita Chehri, Sepideh Khazaie, Mahdis Noori, Soudabeh Eskandari, Habibolah Khazaie & Amir Jalali  
Pages: 425-429  
Published online: 11 Feb 2020  
[Abstract](#) | [Full Text](#) | [References](#) | [PDF \(436 KB\)](#) | [EPUB](#) |

122  
Views  
3  
CrossRef citations

Altmetric

Article

93

Publish with us

Explore

Latest issue

Subscribe

+ Purchase a subscription

- Article

Effectiveness of a school-based smoking cessation program for adolescents in Taiwan - individual intervention versus group intervention >

Chai-Jan Chang, Mi-Chih Hsieh, Yu-Fang Tseng, Hung-Pin Tu, Ming-Yang Wu & Shu-Hua Li

Pages: 435-439

Published online: 23 Mar 2020

Abstract | Full Text | References | PDF (445 KB) | EPUB |

220 Views

0 CrossRef citations

Altmetric
- Article

Association of methamphetamine use with depressive symptoms and gender differences in this association: a meta-analysis >

Yiqin He, Jin Zhai & Yangyang Liu

Pages: 440-448

Published online: 18 Mar 2020

Abstract | Full Text | References | PDF (1027 KB) | EPUB |

100 Views

1 CrossRef citations

Altmetric
- Article

Differences between subjects with socially integrated drug use: a study in Italy and Portugal >

Raimondo Maria Pavarin, Ximene Rego, Elia Nostrani, Elia De Caro, Roberta Biolcati, Joana Canêdo & Samantha Sanchini

Pages: 449-455

Published online: 13 Mar 2020

Abstract | Full Text | References | PDF (675 KB) | EPUB |

275 Views

4 CrossRef citations

Altmetric

Correction

- Correction

Correction >

Page: I

Published online: 22 Dec 2019

Citation | Full Text | PDF (86 KB) | EPUB |

261 Views

0 CrossRef citations

Altmetric



Explore articles

Latest	Open access	Most read	Most cited	Trending
Explore the most recently published articles				
<div>The experiences of nurse managers working with substance-using nurses &gt;</div> <div>Ebru Özen Bekar et al.</div> <div>Article   Published online: 24 Jan 2023</div>				

Publish with us

Explore

Latest issue

Subscribe

+ Purchase a subscription

Article | Published online: 23 Jan 2023

Ex-smokers referred urgently to ENT: reasons for quitting and smoking cessation methods utilised >

Charles Dibor et al.

Article | Published online: 17 Jan 2023

View all latest articles>

Browse journals by subject

Back to top ^

- Area Studies

Arts

Behavioral Sciences

Bioscience

Built Environment

Communication Studies

Computer Science

Earth Sciences
- Economics, Finance, Business & Industry

Education

Engineering & Technology

Environment & Agriculture

Environment and Sustainability

Food Science & Technology

Geography

Global Development
- Health and Social Care

Humanities

Information Science

Language & Literature

Law

Mathematics & Statistics

Medicine, Dentistry, Nursing & Allied

Health
- Museum and Heritage Studies

Physical Sciences

Politics & International Relations

Social Sciences

Sports and Leisure

Tourism, Hospitality and Events

Urban Studies

- Information for

Authors

R&D professionals

Editors

Librarians

Societies
- Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research
- Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions
- Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources by email

Sign me up





## Understanding why people who inject drugs in Indonesia are disengaged from HIV testing and treatment: gaps in the HIV treatment cascade

Luh Putu Lila Wulandari, I Made Adimantara, Ni Made Sri Nopiyani & Ni Wayan Septarini

To cite this article: Luh Putu Lila Wulandari, I Made Adimantara, Ni Made Sri Nopiyani & Ni Wayan Septarini (2020) Understanding why people who inject drugs in Indonesia are disengaged from HIV testing and treatment: gaps in the HIV treatment cascade, *Journal of Substance Use*, 25:4, 398-404, DOI: [10.1080/14659891.2020.1723722](https://doi.org/10.1080/14659891.2020.1723722)

To link to this article: <https://doi.org/10.1080/14659891.2020.1723722>



Published online: 06 Feb 2020.



Submit your article to this journal [↗](#)



Article views: 124



View related articles [↗](#)



View Crossmark data [↗](#)



# Understanding why people who inject drugs in Indonesia are disengaged from HIV testing and treatment: gaps in the HIV treatment cascade

Luh Putu Lila Wulandari <sup>a,b</sup>, I Made Adimantara<sup>c</sup>, Ni Made Sri Nopiyani <sup>a</sup>, and Ni Wayan Septarini <sup>a</sup>

<sup>a</sup>Department of Public Health and Preventive Medicine, Faculty of Medicine, Udayana University, Denpasar, Indonesia; <sup>b</sup>The Kirby Institute, University of New South Wales, Sydney, Australia; <sup>c</sup>Yayasan Kesehatan Bali (Yakeba) Foundation, Denpasar, Indonesia

## ABSTRACT

**Background:** Being ranked second among countries with the highest estimated number of people living with HIV in South East Asia, 28.8% of PWIDs in the country are HIV-infected. Despite the UNAIDS 90-90-90 target, gaps exist across the HIV treatment cascade, including testing of those likely to be HIV positive, linking those tested HIV positive to care, and sustaining the antiretroviral (ARV) drugs uptake. **Objective:** This study aims to evaluate why such gaps exist, by exploring the barriers and challenges present at each stage of the cascade.

**Methods:** A qualitative study was conducted in Bali, in 2016. Interviews were performed among PWIDs who experienced challenges at any stage of the cascade. The interview covered various questions including on HIV, HIV testing, and treatment adherence. Data was analyzed thematically.

**Results:** Participants said they sought testing only when they were concerned about their health; were afraid of testing positive to HIV due to the stigma around HIV; and that starting ARV treatment early was not necessary because they still felt healthy. Participants also expressed the need for support from health providers, peers, and family to stay on ARV, particularly in the face of treatment fatigue; and issues around the quality of care to maintain retention.

**Conclusions:** Challenges hamper each stage of the HIV treatment cascade. Implications and recommendations are discussed.

## ARTICLE HISTORY

Received 15 July 2019  
Revised 2 November 2019  
Accepted 27 January 2020

## KEYWORDS

People who inject drugs; HIV testing; ARV treatment; HIV treatment cascade; challenges; Indonesia

## Background

Globally, people who inject drugs (PWIDs) accounted for 12% of new HIV infections among people aged 15–49 years in 2018 (UNAIDS, 2019). In Indonesia, being ranked second of the five countries with the highest burden of the estimated number of people living with HIV (PLWH) in the South East Asia region (World Health Organization Regional Office for South-East Asia, 2016), 52% of the HIV cases reported to the Indonesian Ministry of Health from January to March 2019 alone were among PWIDs (Indonesian Ministry of Health, 2019a). A national population survey in the country in 2015 reported a similarly concerning picture, noting an HIV prevalence at 28.8 percent among this group (Indonesian Ministry of Health, 2016).

UNAIDS set a target of 90-90-90 by 2020, under which 90 percent of people who are HIV positive are diagnosed, 90 per cent of those diagnosed receive ARV, and 90 per cent of those who take HIV treatment achieve virus suppression (UNAIDS, 2014). Various programs have been established, particularly for PWIDs in Indonesia, which support this goal. These include a collaboration between civil societies and health services aiming to expand access to HIV prevention, testing and antiretroviral (ARV) treatment under the name Layanan Komprehensif Berkesinambungan (LKB) (Indonesian Ministry of Health, 2012; The Indonesian National AIDS Commission, 2015). This is referred to as

a continuum of comprehensive prevention and care service. The approach was strengthened by the introduction of a Strategic Use of ARV (SUA) approach intended to accelerate the reach of these strategies to affected populations so as to increase ARV treatment at the time of diagnosis and maintain treatment and care (The Indonesian National AIDS Commission, 2015).

The HIV treatment cascade is used to monitor and evaluate these programs. It assesses progress toward the UNAIDS 90-90-90 goal by identifying the number of individuals who are engaged at each stage of the HIV treatment cascade, from those who are tested, to those who learn of their HIV status, to their linkage to care, the initiation of ARV, and their retention in care until they reach viral load suppression. Stakeholders use the cascade to monitor their success in reaching people at each stage of this continuum of care. The number of people engaged at each stage of the cascade gives workers the data they need to identify which parts of the cascade need greater attention; stakeholders can identify missed opportunities in the continuum of care and so be better placed to achieve the target of suppressing viral load in the target population.

Recent reports show huge gaps across the cascade in Indonesia. These include challenges for testing those who are likely to be HIV positive, linking people who test positive to care and treatment services, and sustaining ART for viral

load suppression (Akolo, 2018; Januraga et al., 2018), and there were great variations in care across provinces (Indonesian Ministry of Health, 2014).

Studies in Indonesia and other countries in Asia have noted factors that might hinder or facilitate HIV testing, ARV treatment initiation, or adherence to treatment among PWIDs. The barriers include not knowing where to go for a test (Sagung Sawitri, Sumantera, Wirawan, Ford, & Lehman, 2006), difficulties in accessing the clinic due to distance and inconvenience opening hours (Go et al., 2019), financial obstacles (Go et al., 2019; Sagung Sawitri et al., 2006), the cost of ARV treatment (Sharma et al., 2007), clients' monthly income (Sharma et al., 2007), insufficient information with regards to HIV testing and or ARV treatment (Go et al., 2019; Lancaster et al., 2019), insufficient counseling (Sharma et al., 2007), stigma (Go et al., 2019), fear of positive results (Sagung Sawitri et al., 2006), fear or experience of the side effect of ARV treatment (Go et al., 2019; Sharma et al., 2007), and the perception of feeling healthy (Go et al., 2019). On the other hand, the facilitators include the presence of social support (Go et al., 2019; Lancaster et al., 2019), the availability of more accessible services (Go et al., 2019), and integration with other services such as methadone maintenance therapy (Tran et al., 2016).

While each of the above previous studies has looked at the barriers and facilitators of HIV testing, or treatment initiation, or adherence to treatment, limited attention has been put toward looking comprehensively at all components of the HIV treatment cascade in their studies in one population of interest. Using the HIV treatment cascade as a framework, this study begins to fill this gap to explore the challenges and issues that PWIDs in this setting face at each of its steps of the HIV treatment cascade.

## Materials and methods

A qualitative study was conducted among six PWIDs in Bali from early to mid-2016. A phenomenological approach was used to explore participant's real experiences on how they make sense of the HIV testing, HIV treatment initiation, and ARV treatment adherence (Pistrang & Barker, 2012). Semi-structured interviews were conducted with PWIDs who had encountered challenges at different stages of the cascade. Participants were recruited using a purposive sampling method to ensure they had experiences relevant to the study questions (Devers & Frankel, 2000). Those recruited had encountered delays in diagnosis and treatment, interruptions or the cessation of ARV treatment, and their viral load had not been suppressed as a result of treatment.

Outreach workers from the Yayasan Kesehatan Bali (Yakeba) approached potential participants by phone and told them of the study. The outreach workers would explain the study to the participants and described the voluntary nature of participation. If the participants agreed to participate, they were introduced to the researcher (NWS), who conducted the interviews. The outreach workers then arranged a meeting for the participants to meet with the researcher at a time and place convenient for the participants. Most of the interviews took place at public spaces

with an area where the interview could take place in private. Incentives were given in exchange for the time they gave to be interviewed.

Each interview took 45–60 minutes on average. An interview guide, containing questions about HIV, HIV testing, treatment and adherence, HIV services in general, and the challenges that interviewees encountered in following up the treatment cascade, was used.

Interviews were recorded and transcribed. Thematic analysis was undertaken to analyze the data (Braun & Clarke, 2012). To improve the validity of the qualitative data, the researcher checked to ensure that what the participants had said was understood (Mays & Pope, 1995, 2000). Peer debriefing among researchers was also conducted (Mays & Pope, 1995, 2000). Reflexivity was valorized throughout the study process (Mays & Pope, 1995, 2000). LPLW, NMSN, and NWS who were involved in the data analysis, are medical doctors and are trained in qualitative research. IMA is an activist who has been involved in supporting PWIDs in Bali. The researchers were aware that the experiences and backgrounds of the researchers would influence how the data was collected and analyzed, but the strategies mentioned above were conducted to improve the data quality.

Translation of the whole interview transcripts was not conducted as all of the researchers are Indonesian native speakers. The translation was conducted only for particular sections of the transcripts which were selected to represent particular themes. The three of the research team members then read the translation made individually, and the discrepancy was solved by discussion. To limit any potential ethical issues, a pseudonym was applied in the transcription, analysis, and writing up of the manuscript.

The development of this report was guided by the COREQ qualitative reporting guidelines (Tong, Sainsbury, & Craig, 2007). Ethics approval was gained from Udayana University/Sanglah General Hospital Ethics Committee on December 28, 2015.

## Results

The participants' ages ranged from 26 to 43 years, and their education levels covered the range from elementary to senior high school. The lengths of their engagement in drug use were from seven to 22 years. Themes emerged around each step of the HIV treatment cascade, as described below.

### Themes around accessing VCT services and being tested for HIV

#### What if it turns out to be positive?

Stigma around HIV affected people's decisions not to be tested, since they feared the social ramifications of a positive result, and becomes one of the barriers to HIV test. Participants of this study mentioned about their feelings of ashamed and fear if they tested positive.

*"It is between the feeling of ashamed and fear. Fear if the test result turned out to be positive." – Ona, 36 years old.*



*"I was afraid. I felt that I was not ready [to take an HIV test]. What if it was positive? But I had to take the test. I was so confused"* – Lema, 43 years old

*"I hope I will go for a test soon. .ehmm ... but I am afraid to see the results though ..."* – Lev, 26 years old

### Health issues prompt HIV testing

On the other hand, the participant in the current study said that a critical health condition led him to accept the offer of and facilitate HIV testing. They were not aware of their HIV status until they became very sick.

*"I kept getting diarrhea. It only stopped for one to two days, but then it happened again. I lost weight and I was getting thinner day by day. My friend told me to have HIV testing. I finally got tested and the result was positive."* – Naa, 43 years old

*"Everything dropped. Everything seemed so severe. Got very skinny. I thought I already died ... [that is when I got tested]."* – Lema, 43 years old

### A need for services within their reach

Participant mentioned that sometimes an HIV test had to be sought from distant facilities. One of the participants expressed that Voluntary Counseling and Testing (VCT), that is more proximate and more convenient to access, needs to be developed to facilitate testing.

*"So that friends who live far can reach the service ... I live in Yang Batu area and I think I better go to that community health centre, which is closer."* – Ona, 36 years old

### Themes around starting ARV and treatment retention

Some barriers that emerged in relation to starting and retention to ARV treatment included the feeling healthy or strong, treatment fatigue, intention to have a child, lack of monitoring from health service providers, and family members' lack of knowledge on ARV treatment.

### I feel I am still strong enough

Some participants perceived themselves as not needing treatment due to the absence of symptoms or signs. One participant said they did not need ARV because they still felt healthy:

*"I feel I am still strong enough now. Once I am not strong anymore ... Well I do not want to think about it right now ... I just wanna think what is important today. What happens tomorrow, let's just think about it tomorrow."* – Ynn, 41 years old

### Treatment fatigue

The boredom expression with regards to taking ARV was expressed, particularly due to it being a lifelong requirement. Participants mentioned that they had several friends who ceased treatment because they were tired of taking medicine.

*"Just tired ... they said they just tired."* – Naa, 43 years old

*"They said that they were tired of taking the tablets (ARVs). They complained about not feeling any changes. They were just tired and bored."* – Ynn, 41 years old

### Intention to have a child

Intention to have a child is also one factor identified as a reason to stop ARV.

*"I decided to stop the medicine [efavirenz] because I want to have a child. I discussed it with the doctor and she told me and my wife to get checked. There was no problem with my wife but my sperm was of poor quality. At that time, the doctor said that the medicine [efavirenz] affected the sperm. And to improve the sperm quality, the medicine should be stopped or substituted. Since the doctor did not provide me with any clear decision, I, by myself, decided to stop the medicine. My wife got pregnant after three months of me stopping efavirenz."* – Ona, 36 years old

With insufficient information and supports from the health-care providers regarding the intention to have children, this led to participant's decision to stop ARV. This situation was then exacerbated by the provider's lack of monitoring mechanism of loss to follow up.

### Lack of a monitoring mechanism to prevent loss to follow-up

The participant expressed that there had been insufficient monitoring by the health service to prevent their loss to follow-up:

*"I dropped for efavirenz for three months. After my wife was pregnant, I should have continued the medicine. But I didn't do it. I just stopped for more than a year. What I wonder was why the health service didn't follow me up? Could it be because they weren't aware that my treatment was interrupted or what, or they just ignored it."* – Ona, 36 years old

### Family member's lack of knowledge on ARV treatment

One participant said that family members often have insufficient knowledge about HIV and ARV treatment; and limited information was provided to them by the health staff.

*"My wife was only being told to remind me to take the tablets. That was it. Not being explained about the medicine, the side effects, no explanation at all [to my wife]."* – Ona, 36 years old

Despite this situation, participants expressed the need of supports from family members and peers for starting and continuing on treatment.

### Supports from peers and family members

A participant expressed the presence of support from peers to encourage them to start and stay on treatment.

*"Because of the supports I got from my friends ... My friend E referred me here (to CST service). I felt like the tablets (taking ARV) were too much for me, but he told me not to give up."* – Kej, 39 years old

Participants also expressed a need for support from their family members in order to improve adherence to lifelong ARV and avoid treatment fatigue.

*"My friends helped me. Back then I didn't have my motorbike, so they took me everywhere I need to go ... went for a test ... got to the centre to get the medicine. My mother also supported me; she reminded me to take the tablets."* – Naa, 43 years old

*"It's basically the support from family [that they need]. At least there is someone who cares about them when they have to take the medicine."* – Ona, 36 years old



*"I have told my wife about it [HIV status]. My wife always reminds me to take care of myself, to take the tablets [ARVs], and told me not to be too tired" – Kej, 39 years old*

## Discussion

Despite the UNAIDS 90-90-90 goal, recent reports reveal poor HIV testing rates and adherence to HIV care among PWIDs in Indonesia (Akolo, 2018; Januraga et al., 2018). Understanding why HIV-infected PWIDs are disengaged from HIV testing and treatment is important in order to patch the leaks in the HIV treatment cascade. This is among the first qualitative study undertaken in Indonesia to explore the gaps in each step of the HIV treatment cascade from the point of view of the target PWIDs population. Using a qualitative method, the barriers and challenges present at each stage of the cascade – from seeking a test, to starting ARV, and staying on treatment – have been explored. Several themes emerged from each stage of the cascade.

Participants said they had accepted an offer of HIV testing only because of a critical health condition. A similar finding was yielded in a study in China, reporting a link between perceived health issues and HIV testing (Dai et al., 2015). This dynamic has also been explained by a theory of Health Belief Model that suggests a threat to health and the perceived benefits of healthcare contribute to a person's decision to seek HIV (Damgaard, 1995). This circumstance may impede efforts to increase HIV testing among those who are at risk of HIV transmission but have not yet developed any symptoms and feel healthy, and so thwart the targeted achievement of testing 90 percent of those who are infected. It is therefore vital to disseminate knowledge about HIV infection and the importance of early treatment among this PWIDs group, which was particularly found to be more likely to be late presenters into HIV care compared with other key groups (Jeong et al., 2015). Community education services that spread knowledge and awareness, particularly among those at risk or more likely to be HIV positive, are therefore paramount to patch the leak in the HIV treatment cascade.

The development of care services that are convenient in terms of cost, time, and location is worth considering if we are to encourage people to be tested and maintain treatment (Indravudh et al., 2017; Liu et al., 2016). It is interesting to note that the Indonesian government has made a huge commitment to increase the rate of HIV testing facilities. There are at least 6924 VCT facilities and 1063 ARV treatment and care facilities across Indonesia as of June 2019 (Indonesian Ministry of Health, 2019b), yet testing rates among this group are still low. Participants in this study expressed concerns about the social impact of an HIV diagnosis, which may be partly due to stigma related to HIV. The impact of stigma and HIV interventions in this setting has long been acknowledged (Sagung Sawitri et al., 2006; Wulandari, Lubis, Rowe, & Wirawan, 2011). Other studies confirm this finding, suggesting the potent influence of stigma on HIV testing (Smolak & El-Bassel, 2013; Wulandari, Ruddick, Guy, & Kaldor, 2019).

Given the effect of this stigma, it is important to recognize convenience and privacy as critical aspects of HIV testing (Indravudh et al., 2017; Wolff et al., 2005), and that these

should be kept in mind when choosing test modalities so as to improve testing rates. Studies in the current setting have shown the potential of HIV self-testing to address the low testing rates among men who purchase sex (Wulandari, Kaldor, & Guy, 2018). HIV self-testing procedure benefits users in that they can access testing onsite in a place, often in a private setting, and at a time convenient to them (Krause, Subklew-Sehume, Kenyon, & Colebunders, 2013; Stevens, Vrana, Dlin, & Korte, 2017). Its potential use and acceptability should therefore be trialed among PWIDs in this setting.

The above themes, which acknowledge the challenges PWIDs face at the testing stage, were compounded by challenges they encountered at the next stage of the cascade: linkage to care. While WHO guidelines recommend an accelerated ARV initiation following diagnosis (World Health Organisation, 2016), this study found that challenges exist, particularly among those who felt that they still feel healthy. This finding is similar to that from previous studies in Indonesia and Vietnam (Go et al., 2019), and Ethiopia (Assefa, Van Damme, Mariam, & Kloos, 2010) which identified feeling healthy as a reason for poor linkage to care. Unless people prioritize seeking care, it might not be likely that people will attend the necessary treatment (Iwuji & Newell, 2017). This theme demonstrates the importance of providing comprehensive information about ARV treatment to those who have not developed any symptoms and feel healthy, and the effectiveness of early treatment in preventing disease progression and transmission, so that people will make it a priority.

Improved access to and effectiveness of ARV treatment over the last few years have reduced the number of vertical HIV transmission from infected mothers to their children (UNAIDS, 2016); and have improved the survival of PLWH (The Insight Start Study Group, 2015). Due to an increased chance of long and healthy life among PLWH on treatment, many of them wish to have children. In order to respect and support the fulfillment of PLWH's reproductive rights, providers should be able to provide fertility planning services which address PLWH's needs. Moreover, close monitoring and supports should also be provided to PLWH who are trying to conceive to ensure their adherence to ARV.

Participants expressed encountering issues with the health services' attempts to monitor clients' retention in care. This issue might arise from the fact that health services deal with many competing priorities and have limited resources to deal with them. Challenges exist within the SUFA program in this local setting, for example, in terms of the quantity and quality of human resources, particularly in Bali (Nopiyani, Wulandari, & Utomo, 2015). Human resources adequate to ensure people stay with their treatment is therefore needed (Nachega et al., 2014), as is a mechanism to follow up those who stop ARV treatment. If we are to improve the cascade of treatment, it is paramount that we strengthen human resources to provide services at each stage of the cascade.

Treatment fatigue is common among those who have been on ARV (Claborn, Meier, Miller, & Leffingwell, 2015), and it has been acknowledged among PWIDs in this setting (McNally, Mantara, Wulandari, & Lubis, 2013). The expression of this matter links suitably with the previous subtheme,

reinforcing the need for sufficient human resources to offer support during treatment. To overcome barriers of starting ARV and treatment fatigue, participants expressed the value of peer and family support. This is particularly noteworthy in light of a study made in this and other settings that also revealed the importance of peer support in accepting therapy. This theme is also in line with a study conducted in Uganda that also pointed to the significance of family supports during the treatment (Lubogo, Ddamulira, Tweheyo, & Wamani, 2015).

There is value in health providers offering ARV information not only to their clients but also to their clients' family members or important others. Better knowledge of HIV treatment among immediate family members can form the basis of support for the family member being treated. Immediate family members would then be better placed to support treatment and the retention of care.

The results of this study have several implications. First, strategies are needed to encourage more people to undergo HIV testing, particularly those without symptoms. Community education is important to ensure that those at risk realize the need to know their status, even if they do not develop symptoms. Second, due to the stigma surrounding HIV in this setting, PWIDs need testing strategies that offer more confidentiality and privacy and therefore allay their fears of social consequences. HIV self-testing has been formally recommended by the WHO as a means of testing more people in the community, particularly targeting those who are reluctant to seek an HIV test at the clinic (World Health Organisation, 2015). Studies around the world have noted the high acceptability of this testing strategy among PWIDs (Green, 2016; Witzel et al., 2018), including men who purchase sex in this setting (Wulandari et al., 2018). Future studies should therefore identify the applicability and acceptability of this strategy among PWIDs in this context. Third, due to the influence of HIV related stigma on a client's decision to be tested and seek care, strategies are needed in this setting that mitigate stigma. Fourth, peers and partners can play an important role in providing support for the commencement of therapy, retention in care, and mitigating treatment fatigue. Families should be informed about the disease and the need to collaborate with health workers to maintain treatment. Studies have noted that the involvement of family and peers in HIV treatment yields positive benefits to treatment adherence (Joanna, Ethel, Tsitsi, Hilda, & Ferrand, 2014; Roura et al., 2009). Future studies should look at how best to educate and involve family members and peers in encouraging clients to seek testing and stay on treatment in this setting. Last but not least, a strong health system and sufficient resources are among the essential ingredients for the success of universal testing and treatment (Iwuji & Newell, 2017). Therefore, efforts to strengthen both should be an integral part of strategies to reach the UNAIDS 90-90-90 goal.

As with other qualitative studies, the generalizability of findings from the current study is limited. Several efforts were, however, made to improve the quality of the data, including the purposeful selection of participants who have experience relevant to the aim of the study, and efforts to improve the validity of the data (member checking, peer debriefing, and reflexivity). The small number of participants

involved in this study is also a concern. Despite the length of the data collection period, only six men agreed to be interviewed. While no new information was obtained from the last participant, indicating that further collection of data are unnecessary (Saunders et al., 2018), pragmatic consideration was taken to not continuing data collection process due to time constraints and difficulties in accessing the population (Vasileiou, Barnett, Thorpe, & Young, 2018). PWIDs in Indonesia are the subject of stigma, and this stigma is exacerbated when the person becomes infected with HIV, presenting a challenge to this study's recruitment process. However, the findings found in the current study are consistent with those in the previous studies in Indonesia and other countries, suggesting that the results of the current study have provided valuable additional evidence to support the evidence on gaps in the HIV treatment cascade among PWIDs. The strength of this qualitative study is that this study aimed to provide a current picture of the experiences of individuals targeted for HIV treatment cascade calculation. Their views will shed light on how gaps in the HIV treatment cascade could be addressed.

## Conclusions and recommendations

It is evident that enormous challenges hamper each stage of the HIV treatment cascade. Continuous and stronger collaboration among all stakeholders – individuals, peers, family members, community-based organizations (CBOs) and government institutions – to support and improve the program is needed to address these challenges. Implications for costs and resource allocation to address the challenges are worth considering in future studies.

## Acknowledgments

This study received funding support from Frontline AIDS (formerly known as the International HIV/AIDS Alliance) through Rumah Cemara and Yayasan Kesehatan Bali (Yakeba). We would like to acknowledge Yayasan Rumah Cemara, the outreach workers of Yakeba Foundation and participants involved in the study.

## Funding

This work was supported by the Frontline AIDS (formerly known as the International HIV/AIDS Alliance).

## ORCID

Luh Putu Lila Wulandari  <http://orcid.org/0000-0002-3397-3648>  
 Ni Made Sri Nopiyani  <http://orcid.org/0000-0002-1486-2619>  
 Ni Wayan Septarini  <http://orcid.org/0000-0002-9998-0947>

## References

- Akolo, C. (2018). *Double-sided HIV cascades for key populations (THBS0204)*. Paper presented at the 22nd International AIDS Conference, Amsterdam, the Netherlands. Retrieved from <http://programme.aids2018.org/Search/Search?search=cascade>
- Assefa, Y., Van Damme, W., Mariam, D. H., & Kloos, H. (2010). Toward universal access to HIV counseling and testing and antiretroviral treatment in Ethiopia: Looking beyond HIV testing and ART

- initiation. *AIDS Patient Care and STDs*, 24(8), 521–525. doi:10.1089/apc.2009.0286
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology: Research designs: Quantitative, qualitative, neuropsychological, and biological* (Vol. 2, pp. 57–71). Washington, DC: American Psychological Association.
- Claborn, K. R., Meier, E., Miller, M. B., & Leffingwell, T. R. (2015). A systematic review of treatment fatigue among HIV-infected patients prescribed antiretroviral therapy. *Psychology, Health & Medicine*, 20(3), 255–265. doi:10.1080/13548506.2014.945601
- Dai, S.-Y., Liu, J.-J., Fan, Y.-G., Shan, G.-S., Zhang, H.-B., Li, M.-Q., & Ye, D.-Q. (2015). Prevalence and factors associated with late HIV diagnosis. *Journal of Medical Virology*, 87(6), 970–977. doi:10.1002/jmv.24066
- Damgaard, A. M. (1995). *HIV testing in young adults: A test of the health belief model* (9611660 PhD.). Arizona State University, Ann Arbor. ProQuest Dissertations & Theses Global database.
- Devers, K. J., & Frankel, R. M. (2000). Study design in qualitative research— 2: Sampling and data collection strategies. *Education for Health*, 13(2), 263. doi:10.1080/13576280050074543
- Go, V. F., Hershow, R. B., Kiriazova, T., Sarasvita, R., Bui, Q., Latkin, C. A., ... Miller, W. C. (2019). Client and provider perspectives on antiretroviral treatment uptake and adherence among people who inject drugs in Indonesia, Ukraine and Vietnam: HPTN 074. *AIDS and Behavior*, 23(4), 1084–1093. doi:10.1007/s10461-018-2307-y
- Green, K. (2016). *Is HIV self-testing acceptable to key populations in vietnam? Results from a cross-sectional study of men who have sex with men, female sex workers and people who inject drugs*. Paper presented at the 21th International AIDS Conference (AIDS 2016), Durban, South Africa. doi:10.3310/hta20400
- Indonesian Ministry of Health. (2012). *Guidelines on the implementation of continuum comprehensive HIV STI care services (Pedoman penerapan layanan komprehensif HIV IMS berkesinambungan)*. Jakarta: Indonesian Ministry of Health.
- Indonesian Ministry of Health. (2014). *Integrated biological and behavioural survey (IBBS) 2013*. Jakarta, Indonesia: Indonesian Ministry of Health. Retrieved from [http://siha.depkes.go.id/portal/files\\_upload/Laporan\\_STBP\\_2013.pdf](http://siha.depkes.go.id/portal/files_upload/Laporan_STBP_2013.pdf)
- Indonesian Ministry of Health. (2016). *Integrated biological and behavioural survey (IBBS) 2015*. Jakarta, Indonesia: Indonesian Ministry of Health.
- Indonesian Ministry of Health. (2019a). *Trend in reported cases of HIV AIDS and STIs, first trimester 2019*. Jakarta, Indonesia: Indonesian Ministry of Health.
- Indonesian Ministry of Health. (2019b). *Trend in the reported cases of HIV AIDS and STIs, second trimester 2019*. Jakarta, Indonesia: Indonesian Ministry of Health.
- The Indonesian National AIDS Commission. (2015). *National HIV & AIDS strategy and action plan 2015–2019*. Jakarta, Indonesia: The Indonesian National AIDS Commission.
- Indravudh, P. P., Sibanda, E. L., d'Elbée, M., Kumwenda, M. K., Ringwald, B., Maringwa, G., ... Taegtmeier, M. (2017). 'I will choose when to test, where I want to test': Investigating young people's preferences for HIV self-testing in Malawi and Zimbabwe. *AIDS*, 31(Suppl3), S203–S212. doi:10.1097/QAD.0000000000001516
- The Insight Start Study Group. (2015). Initiation of antiretroviral therapy in early asymptomatic HIV infection. *New England Journal of Medicine*, 373(9), 795–807. doi:10.1056/NEJMoa1506816
- Iwui, C., & Newell, M.-L. (2017). Towards control of the global HIV epidemic: Addressing the middle-90 challenge in the UNAIDS 90–90–90 target. *PLoS Medicine*, 14(5), e1002293. doi:10.1371/journal.pmed.1002293
- Januraga, P. P., Reekie, J., Mulyani, T., Lestari, B. W., Iskandar, S., Wisaksana, R., ... Kaldor, J. M. (2018). The cascade of HIV care among key populations in Indonesia: A prospective cohort study. *Lancet HIV*, 5(10), e560–e568. doi:10.1016/s2352-3018(18)30148-6
- Jeong, S. J., Italiano, C., Chaiwarith, R., Ng, O. T., Vanar, S., Jiamsakul, A., ... Choi, J. Y. (2015). Late presentation into care of HIV disease and its associated factors in Asia: Results of TAHOD. *AIDS Research and Human Retroviruses*, 32(3), 255–261. doi:10.1089/aid.2015.0058
- Joanna, B., Ethel, D., Tsitsi, B., Hilda, M., & Ferrand, R. A. (2014). 'I don't want financial support but verbal support.' How do caregivers manage children's access to and retention in HIV care in urban Zimbabwe? *Journal of the International AIDS Society*, 17(1), 18839. doi:10.7448/IAS.17.1.18839
- Krause, J., Subklew-Sehume, F., Kenyon, C., & Colebunders, R. (2013). Acceptability of HIV self-testing: A systematic literature review. *BMC Public Health*, 13(1), 735. doi:10.1186/1471-2458-13-735
- Lancaster, K. E., Miller, W. C., Kiriazova, T., Sarasvita, R., Bui, Q., Ha, T. V., ... Latkin, C. A. (2019). Designing an individually tailored multilevel intervention to increase engagement in HIV and substance use treatment among people who inject drugs with HIV: HPTN 074. *AIDS Education and Prevention*, 31(2), 95–110. doi:10.1521/aeap.2019.31.2.95
- Liu, Y., Osborn, C. Y., Qian, H.-Z., Yin, L., Xiao, D., Ruan, Y., ... Amico, K. R. (2016). Barriers and facilitators of linkage to and engagement in HIV care among HIV-positive men who have sex with men in China: A qualitative study. *AIDS Patient Care and STDs*, 30(2), 70–77. doi:10.1089/apc.2015.0296
- Lubogo, D., Ddamulira, J. B., Tweheyo, R., & Wamani, H. (2015). Factors associated with access to HIV care services in eastern Uganda: The Kumi home based HIV counseling and testing program experience. *BMC Family Practice*, 16(1), 1–9. doi:10.1186/s12875-015-0379-6
- Mays, N., & Pope, C. (1995). Rigour and qualitative research. *British Medical Journal*, 311(6997), 109–112. doi:10.1136/bmj.311.6997.109
- Mays, N., & Pope, C. (2000). Assessing quality in qualitative research. *British Medical Journal*, 320(7226), 50. doi:10.1136/bmj.320.7226.50
- McNally, S., Mantara, I. M. A., Wulandari, L. P. L., & Lubis, D. S. M. (2013). *Stopping ARV treatment in Bali, Indonesia*. Paper presented at the 11th International Congress on AIDS in Asia and the Pacific (ICAAP 11), Bangkok.
- Nachega, J. B., Uthman, O. A., Del Rio, C., Mugavero, M. J., Rees, H., & Mills, E. J. (2014). Addressing the Achilles' heel in the HIV care continuum for the success of a test-and-treat strategy to achieve an AIDS-free generation. *Clinical Infectious Diseases : an Official Publication of the Infectious Diseases Society of America*, 59(Suppl 1), S21–27. doi:10.1093/cid/ciu299
- Nopiyan, N. M. S., Wulandari, L. P. L., & Utomo, B. (2015). *How feasible is integration of test and treat program into the primary care setting in Bali? Human for health resources perspective*. Paper presented at the The Australian HIV& AIDS Conference, Brisbane.
- Pistrang, N., & Barker, C. (2012). Varieties of qualitative research: A pragmatic approach to selecting methods. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology: Research designs: Quantitative, qualitative, neuropsychological, and biological* (Vol. 2, pp. 5–18). Washington, DC, US: American Psychological Association.
- Roura, M., Busza, J., Wringe, A., Mbata, D., Urassa, M., & Zaba, B. (2009). Barriers to sustaining antiretroviral treatment in Kisesa, Tanzania: A follow-up study to understand attrition from the antiretroviral program. *AIDS Patient Care and STDs*, 23(3), 203–210. doi:10.1089/apc.2008.0129
- Sagung Sawitri, A. A., Sumantera, G. M., Wirawan, D. N., Ford, K., & Lehman, E. (2006). HIV testing experience of drug users in Bali, Indonesia. *AIDS Care*, 18(6), 577–588. doi:10.1080/09540120500275015
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., ... Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity*, 52(4), 1893–1907. doi:10.1007/s11135-017-0574-8
- Sharma, M., Singh, R. R., Laishram, P., Kumar, B., Nanao, H., Sharma, C., & Ahmed, T. (2007). Access, adherence, quality and impact of ARV provision to current and ex-injecting drug users in Manipur (India): An initial assessment. *International Journal of Drug Policy*, 18(4), 319–325. doi:10.1016/j.drugpo.2007.04.001
- Smolak, A., & El-Bassel, N. (2013). Multilevel stigma as a barrier to HIV testing in central Asia: A context quantified. *AIDS and Behavior*, 17(8), 2742–2755. doi:10.1007/s10461-013-0571-4

- Stevens, D. R., Vrana, C. J., Dlin, R. E., & Korte, J. E. (2017). A global review of HIV self-testing: Themes and implications. *AIDS and Behavior*, 1–16. doi:10.1007/s10461-017-1707-8
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357. doi:10.1093/intqhc/mzm042
- Tran, B. X., Nguyen, L. H., Nguyen, L. P., Nguyen, C. T., Phan, H. T. T., & Latkin, C. A. (2016). Methadone maintenance treatment promotes referral and uptake of HIV testing and counselling services amongst drug users and their partners. *PloS One*, 11(4), e0152804. doi:10.1371/journal.pone.0152804
- UNAIDS. (2014). 90-90-90 An ambitious treatment target to help end the AIDS epidemic. Retrieved from [http://www.unaids.org/sites/default/files/media\\_asset/90-90-90\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/90-90-90_en.pdf)
- UNAIDS. (2016). Preventing mother-to-child transmission of HIV. Retrieved from [https://www.unaids.org/en/resources/presscentre/featurestories/2016/october/20161024\\_EMotherToChildT](https://www.unaids.org/en/resources/presscentre/featurestories/2016/october/20161024_EMotherToChildT)
- UNAIDS. (2019). *Global AIDS update 2019 — communities at the centre*. Geneva, Switzerland: UNAIDS.
- Vasileiou, K., Barnett, J., Thorpe, S., & Young, T. (2018). Characterising and justifying sample size sufficiency in interview-based studies: Systematic analysis of qualitative health research over a 15-year period. *BMC Medical Research Methodology*, 18(1), 148. doi:10.1186/s12874-018-0594-7
- Witzel, T., Guise, A., Parkes, L., Weatherburn, P., Burns, F., Mandal, S., ... Rodger, A. (2018). *Working across epidemics: Comparing the acceptability of self-led testing options for HIV and hepatitis C virus among men who have sex with men and people who use drugs*. Paper presented at the the 4th Joint Conference of the British HIV Association (BHIVA) with the British Association for Sexual Health and HIV (BASHH), Edinburgh, UK.
- Wolff, B., Nyanzi, B., Katongole, G., Ssesanga, D., Ruberantwari, A., & Whitworth, J. (2005). Evaluation of a home-based voluntary counselling and testing intervention in rural Uganda. *Health Policy and Planning*, 20(2), 109–116. doi:10.1093/heapol/czi013
- World Health Organisation. (2015). *Consolidated guidelines on HIV testing services*. Retrieved from [http://apps.who.int/iris/bitstream/10665/179870/1/9789241508926\\_eng.pdf?ua=1&ua=1](http://apps.who.int/iris/bitstream/10665/179870/1/9789241508926_eng.pdf?ua=1&ua=1)
- World Health Organisation. (2016). *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: Recommendations for a public health approach - Second edition*.
- World Health Organization Regional Office for South-East Asia. (2016). *Progress report on HIV in the WHO South-East Asia region 2016*. Retrieved from [http://apps.searo.who.int/PDS\\_DOCS/B5282.pdf](http://apps.searo.who.int/PDS_DOCS/B5282.pdf)
- Wulandari, L. P. L., Kaldor, J., & Guy, R. (2018). *Brothel-distributed HIV self-testing by lay workers improves HIV testing rates among men who purchase sex in Indonesia*. Paper presented at the 2018 Australasian HIV&AIDS Conference, Sydney Retrieved from <https://az659834.vo.msecnd.net/eventsairaueprod/production-ashm-public/0bf7d03d55b34f49bd4fb5f74a2bafc2>
- Wulandari, L. P. L., Lubis, D. S. M., Rowe, E., & Wirawan, D. N. (2011). *The continuing challenges of stigma surrounding HIV in preventing successful implementation of PMTCT programs in Bali*. Paper presented at the Australasian HIV/AIDS Conference 2011, Canberra. Retrieved from [https://www.eiseverywhere.com/file\\_uploads/095c9f502703bab31c3692624fb13bf1\\_2011ConferenceHandbook.pdf](https://www.eiseverywhere.com/file_uploads/095c9f502703bab31c3692624fb13bf1_2011ConferenceHandbook.pdf)
- Wulandari, L. P. L., Ruddick, A., Guy, R., & Kaldor, J. (2019). “Self-testing sounds more private, rather than going to the clinic and everybody will find out”: Facilitators and barriers regarding HIV testing among men who purchase sex in Bali, Indonesia. *PloS One*, 14, e0214987. doi:10.1371/journal.pone.0214987