

## Is Pakistan at the cusp of an ART resistance?

Arshad Altaf

### Abstract

Only 10% of HIV positive individuals in Pakistan are receiving anti-retroviral therapy (ART) and the dropout rate from HIV treatment is extremely high. This short report attempts to highlight the risk of ART resistance. Pakistan National AIDS Control Programme's website reports 15,390 HIV positive persons receiving ART out of which 4,697 (30.5%) are people who inject drugs (PWIDs) among whom HIV prevalence is reported to be 38.4%. In the two large provinces of the country (Punjab and Sindh) with more than 90% burden of HIV, ART was initiated in 2,807 patients between April and September 2018, out of these 37% were lost to follow up. Many patients have cited issues related to quality of service at the ART centres as one of the reasons to not revisiting the treatment centres. HIV planners in Pakistan urgently need to make a new strategy and improve not only the quality of services but also increase the number of HIV positive persons receiving ART.

**Keywords:** HIV, ART resistance, Pakistan

**DOI:** <https://doi.org/10.5455/JPMA.30590>

### Introduction

*"Patients must be supported to adhere to therapy and to stay in care, and health systems must develop robust ways to monitor the effectiveness of their antiretroviral therapy programmes."* Peter Godfrey-Fausset, Senior Science Adviser, UNAIDS

According to the World Health Organisation (WHO) *"the ability of HIV to mutate and reproduce itself in the presence of antiretroviral drugs is called HIV drug resistance (HIVDR). The consequences of HIVDR include treatment failure and further spread of drug resistant HIV."*<sup>1</sup> UNAIDS further clarifies the causes: *"drug resistance is more likely to happen when a person is unable to, or does not, take their medicine regularly as prescribed. Once resistance has developed, the resistant strain of the virus can be transmitted from one person to another."*<sup>2</sup> The current situation of HIV treatment in Pakistan warrants urgent attention and action from each and every HIV stakeholder — be that government, non-government, UN or anyone else. The situation is so volatile that it may lead to and require global HIV treatment experts to rewrite anti-retroviral treatment (ART) regimen(s).

### Risk of ART resistance

The website of National AIDS Control Programme (NACP) WHO HIV, Hepatitis and STI Programmes, Switzerland.

**Correspondence:** Arshad Altaf. e-mail: [arshad.altaf@gmail.com](mailto:arshad.altaf@gmail.com)

Pakistan states that there are an estimated 150,000 HIV positive persons in the country.<sup>3</sup> The number of people receiving ART is 15,390 (10.2%). Of all the people on ART, 4,697 (30.5%) are those who inject drugs (PWIDs).<sup>3</sup> The NACP data clearly indicates that a large majority (90%) HIV positive individuals in Pakistan are not on treatment. Many of them possibly do not know their HIV status. In Punjab, between April and September 2018 a total of 1,868 HIV positive patients were put on ARTs out of which 731 (39.1%) were lost to follow up. During the same period in Sindh 939 HIV patients were put on ART and 308 (32.8%) were lost to follow up. (Roadmap of differentiated service delivery for antiretroviral therapy for HIV in Punjab and Sindh, unpublished, January 2019). The two provinces — Punjab and Sindh — represent 92% of the HIV burden of Pakistan. Crudely put, almost 37% HIV positive patients were lost to follow up in the two provinces which have the highest disease burden. When a patient is lost to follow up it means that she/he is not taking any ART medicines as the treatment centres only provide a limited amount of ART medicines at a time. The medicine quota to each patient is for one to three months. An infinite supply is not provided because treatment centres receive a limited supply and it is also expected that when the patient comes back for follow up her/his health can be evaluated, necessary progress indicators such as viral load, CD4 documented, and issues related to adherence can be addressed. Some of the key risks associated with stopping medicines are a rising viral load and chances of opportunistic infections. As viral load increases the chance of transmitting HIV infection increases. Most importantly, there is a risk of drug resistance if the treatment is stopped without consultation with a doctor.<sup>4</sup>

### Slow HIV prevention effort

HIV prevention and treatment efforts have stalled to a large extent in the country. Barely any on-ground prevention effort is going on. Whatever is happening is so little that it does not have the potential to make any positive impact. Even though the four provinces and their AIDS control programmes have approved budgets through their official planning document called (PC1), no on-ground government HIV prevention activities were operational till the writing of this paper. HIV related programmatic delays and lack of implementation has been highlighted in another paper which has also mentioned a huge gap that needs to be filled for people receiving HIV treatment and lack of prevention programmes for key population (KP) in

the country.<sup>5</sup> To give credit where it is due, free of cost treatment is being provided through 33 static government HIV treatment centres in the country. However, to seek treatment for HIV and receive medicines, the patient has to visit a treatment centre to get tested and receive free ART. The National AIDS Control Programme has a social media presence and maintains a Facebook page (<https://web.facebook.com/nationalaidscontrolprogramme/>). But this is certainly not enough. This model needs to change. It needs to change urgently for something more accessible but not just for the sake of mentioning in the planning papers and meetings but on ground prevention activities need to be instituted immediately. Key population (KP) constitute a significant number of HIV positive persons in Pakistan. A quick glance at the results of 2016-17 national HIV surveillance round indicates that HIV prevalence among PWIDs was 38.4% of whom 40.1% were illiterate, 7.1% transgender or hijra sex workers were HIV positive of which 43.4% were illiterate, HIV prevalence among male sex workers was 5.6% of which 25.2% were uneducated, while 2.2% of female sex workers were HIV positive and 43.2% had not attended any formal schooling.<sup>6</sup> These are alarming numbers not only for HIV burden in the country but chances of disease transmission increase when such high percentage of people who are at risk of HIV are not educated. For an uneducated person it is not easy to realise the importance of adherence or regular follow ups at HIV treatment centres. A 2010 study commissioned by the Association of People Living with HIV and AIDS Pakistan had reported that 37.6% HIV infected patients recruited as respondents in the study were uneducated. Respondents also reported issues such as not maintaining confidentiality and revealing their HIV status without consent at the treatment centres.<sup>7</sup> These are discouraging factors and can become the reason for not going to the treatment centres, thereby discontinuing treatment which has to continue for life.

## Discussion

WHO guidelines recommend community-based testing linked to prevention, care and treatment as it has the potential to reach greater number of people who are at risk, especially PWIDs and sex workers. Community-based testing has a key role among those who do not go to a facility for testing and treatment and those who are asymptomatic.<sup>8,9</sup> Experiences of Médecins Sans Frontières (MSF), also known as Doctors without Borders, report that no single approach exists for community ART delivery. Different approaches have been developed in sub-Saharan Africa. It recommends that models need to be adapted to their context keeping in mind the factors such as barriers to access and retention in care, the extent of service decentralisation and task shifting, the availability of safe and simple ART regimens, capacity of health services as

well as regulatory and logistical constraints on ART delivery system. Community-based models have to be responsive to the need of people living with HIV. Community-based model can also reduce the burden on health care delivery systems and increase retention in care.<sup>10</sup>

The bottom line is, if issues related to ART services in Pakistan are not prudently addressed by HIV planners and policy-makers it will lead to a large pool of HIV positive persons who may be resistant to different treatment regimens. With a fragile healthcare system and so many other issues to address and deal with, this may get diluted and its full impact will be devastating on the lives of people living with HIV. Pakistan is already in the list of 20 countries where global trends for new HIV infections have shown a very modest decline, with disappointing trends in adolescents and stagnation in adult control efforts. (UNAIDS. Global HIV Prevention Coalition. June 26, 2017, unpublished).

## Conclusion

Prudent measures with provision of HIV treatment and counselling services coupled with effective and well-reached HIV prevention programmes on ground is the need of the hour for Pakistan.

**Disclaimer:** None.

**Conflict of Interest:** None.

**Funding Sources:** None.

## References

1. WHO HIV. [Online] [Cited 2019 Feb 4]. Available from: URL: <https://www.who.int/hiv/topics/drugresistance/en/>
2. UNAIDS HIV drug. [Online] [Cited 2019 Feb 4]. Available from: URL: [http://www.unaids.org/en/resources/presscentre/featurestories/2016/february/20160208\\_Drug\\_resistance](http://www.unaids.org/en/resources/presscentre/featurestories/2016/february/20160208_Drug_resistance)
3. Pakistan National AIDS Control Programme. [Online] [Cited 2019 Feb 7]. Available from: URL: <http://www.nacp.gov.pk/>
4. AIDS Map factsheet on treatment breaks. [Online] [Cited 2019 Feb 7]. Available from: URL: <http://www.aidsmap.com/Treatment-breaks/page/1044580/>
5. Altaf A. Delays and gaps in HIV programming in Pakistan. *Lancet HIV* 2018; 5: e678-9.
6. Integrated Behavioural and Biological Surveillance in Pakistan. National AIDS Control Programme, Pakistan. [Online] 2017 [Cited 2019 Feb 9]. Available from: URL: <http://www.nacp.gov.pk/whatwedo/surveillance.html#>
7. Global Network of People Living with HIV. [Online] [Cited 2019 Feb 9]. Available from: URL: <http://www.gnplplus.net/assets/Final-Report-Stigma-Index-Project-Pakistan.pdf>
8. Hall AJ. Hepatitis B vaccination: protection for how long and against what? *BMJ* 1993; 307: 276-7.
9. WHO Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations. [Online] 2016 [Cited 2019 Feb 8]. Available from: URL: <https://www.who.int/hiv/pub/guidelines/key-populations-2016/en/>
10. Community Based Antiretroviral Therapy Delivery. Experiences of Medecins Sans Frontieres. [Online] 2015 [Cited 2019 Feb 8]. Available from: URL: [http://www.unaids.org/sites/default/files/media\\_asset/20150420\\_MSF\\_UNAIDS\\_JC2707.pdf](http://www.unaids.org/sites/default/files/media_asset/20150420_MSF_UNAIDS_JC2707.pdf)