Impact of COVID-19 pandemic on HIV viral load testing in paediatric HIV centres in the European Pregnancy and Paediatric Infections Cohort Collaboration (EPPICC)

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Introduction

The COVID 19 pandemic impacted HIV services globally, with clinics limiting in-person visits to priority patients.

In children and young people living with HIV (CLWHIV) in Europe we explored trends in viral load (VL) monitoring before and during the pandemic and associated factors, from 2015 to September 2020.

Overall, 4,649 CLWHIV were in paediatric HIV care at some point between 2015-2020 and followed in EPPICC:

- 35% were in Ukraine, 24% United Kingdom, 24% Russia, 9% Spain, <5% from each of Greece, Switzerland, Poland, Portugal, Belgium and Sweden.
- 89% acquired HIV vertically, 97% ever initiated ART, median age at ART initiation was 3.0 [IQR 0.8, 7.6] years.
- Among CLWHIV in paediatric care at start of 2015 (n=3980) and in 2020 (n=2096), the median age was 10.8 [6.9, 14.6] and 12.7 [8.4, 15.9] years, respectively.
- VL test rates were stable from 2015-2019 and declined in 2020 (Fig 1A). During 2019-20, the lowest test rates were in April 2020 (Fig 1B).
- There was a significant decline in percentage of tests with VL≥200c/ml between 2015 and 2020 (Fig 2A). Overall, the percentage with VL≥200c/ml varied across regions, e.g., 53% in one Russian cohort vs 9% elsewhere in 2020 (similar differences were seen in other years).
- Overall, there was no evidence of an increase in proportion with detectable VL during 2020 (Fig 2B).

Results: Temporal trends in viral load testing

Overall, 4,784 CLWHIV in paediatric HIV care at some point between 2015-2020 and followed in EPPICC:

- 54% were female, median age was 12.3 [IQR 8.1,15.5] years
- 97% were on ART, 2.5% had interrupted treatment, 0.8% were treatment naïve.
- 6.9% had started ART within previous 12 months.

Data were available for 1,784 CLWHIV in paediatric care between April-June 2020. As of 01/04/2020:

- 54% were female, median age was 12.3 [IQR 8.1,15.5] years
- 97% were on ART, 2.5% had interrupted treatment, 0.8% were treatment naïve
- 6.9% had started ART within previous 12 months
- 25.6% had recent viremia (≥1 VL≥200c/ml in previous year)
- 1.4% had CD4<200 at last visit.

340 of the 1784 (22.6%) CLWHIV in paediatric care had ≥1 VL test in April-June 2020

In multivariable logistic regression analysis, those who were naïve or started ART within the last year, or had recent viraemia, were more likely to have a VL test, while those on treatment interruptions were less likely to have a test (Figure 3).

Conclusion

- The COVID-19 pandemic had considerable impact on frequency of VL testing and there was evidence of appropriate prioritisation in testing CLWHIV, mostly based on ART and VL status.
- The proportion with unsuppressed VL was already declining pre-pandemic and remained stable during the second quarter of 2020 despite use of targeted VL testing.
- Further data are needed to assess if trends continued across subsequent lockdowns and post-pandemic, and to assess any subsequent effect of reduced clinic visits on virological outcomes.