

Short Communication

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Enhancing retention in care in HIV-infected adolescents during COVID-19 in Mozambique: results from the DREAM program

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Abstract

Introduction: Around 1,7 million adolescents aged 10–19 years worldwide are infected with HIV, 84% of them living in Sub-Saharan Africa. Mozambique is one of the countries with the highest prevalence of HIV in the world. According to UNAIDS, HIV services for adolescents should be tailored and specifically designed for them.

Methods: We aimed to evaluate a package of activities to enhance the retention of HIV-infected adolescent in Mozambique. We retrospectively reviewed routine data from 7 health centers involved in 26 months, from March 2020 to May 2022. A package of tailored interventions was implemented in all the sites. We reviewed activity data from the included centers.

Results: The median number of patients per center was 343 (IQR: 289–466) at the beginning of the period and 395 (IQR: 322–453) at the end. The median overall retention in care and rate of lost to follow-up at the beginning and the end of the period were respectively: 94.2% (IQR 91.9–97.3%) to 99.0% (IQR 96.8–99.5%), 1.5% (IQR 1–3.2%) to 0% (IQR 0.0–0.3%). The total number of deaths increased reaching a plateau after September 2021. All the indicators improved

after the beginning of the intervention, also during COVID-19 pandemic.

Conclusions: Our data support the idea that enhancing retention in care for HIV positive adolescents need tailored interventions, based on deep rooting in the specific social context. Tailored intervention can resist external shock such as COVID-19.

Keywords: Africa; HIV; retention in care.

Introduction

HIV is a global pandemic involving around 1,7 million adolescents aged 10–19 years worldwide, 84% of them living in Sub-Saharan Africa [1]. According to UNAIDS, 29,000 adolescents died due to HIV in 2021, and over 91% of them were African. Treatment adherence is a challenge in HIV care, especially in adolescents [2–4]. Mozambique is one of the countries with the highest prevalence of HIV in the world, but updated official data are still missing [5], last data dates back to 2018, with more than two million HIV infected people in the country, of whom 140,000 were adolescents aged 11–19 years [6, 7]. According to UNAIDS, HIV services for adolescents should be tailored and specifically designed for them [8]. Some interventions have been evaluated, but further research is needed [2, 9, 10]. Moreover, the COVID-19 pandemic strongly impacted HIV care for adolescents in many countries [11, 12]. Mozambique was particularly hit in recent years by unexpected events that burdened the already weak health system: cyclones Idai and Kenneth in 2019 and the SARS-CoV-2 pandemic. Such events impacted on the delivery of some health services [13, 14].

Our study aimed to evaluate the trend in HIV care services for adolescents in Mozambique during the implementation of a package of activities to enhance the retention of HIV-infected adolescent patients, within the “Espaço aberto” (“Open Space”) project.

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Methods

“Espaço aberto” is a cooperation project funded by the Italian Cooperation Agency in collaboration with the Global Fund, implemented by the DREAM program in the main cities of Mozambique (3 sites in Maputo, two sites in Beira, one site in Matola, and one site in Quelimane), aimed at increasing retention in care for adolescent HIV patients.

DREAM program is public health program run by the Community of Sant’Egídio in 10 African countries. It runs a wide range of services [15–17]; DREAM program has a strong focus on retention in care and social interventions [18, 19], also in adolescent population [4]. To evaluate the trend in HIV care services for adolescents in DREAM centres in Mozambique, we retrospectively reviewed routine data from the 7 health centers involved in 26 months, from March 2020 to May 2022. The included sites were: Maputo city center (CC), Maputo Machava (MC), Maputo Zimpeto (ZI), Matola (MT), Beira city center (BE), Beira Manga Chingussura (MN), Quelimane (QL). Since May 2021 a package of interventions was implemented in all the sites: support groups for adolescents, the use of young men and women aged 19–24 years as counsellors, specific training for healthcare workers about adolescents, and online group sessions with a psychologist. In each health centre, support and mentoring sessions were held regularly; the sessions were managed by trained young expert clients and health care workers. The sessions were about adherence, global health, family and social self-reintegrations, professional development opportunities; local HIV positive personalities involved in sport, culture, music and art voluntarily gave their living witness encouraging the adolescents. The activities lasted for the entire period analysed.

We reviewed general data from the centers: total number of adolescents in care, overall retention in care, rate of lost-to-follow-up (LTFU) patients, and number of deceased patients. The rate of retention in care was calculated as the percentage of patients in care (not LTFU, nor dead, nor transferred), LTFU was defined as a patient missing appointments for more than three months. We evaluated temporal trends for each indicator for each centre and median values.

Results

At the beginning of the considered period, 2,575 patients aged 11–19 years were in care in the seven sites, at the end of the period they were 2,728 patients. The median number of patients per center was 343 (IQR: 289–466) at the beginning of the period and 395 (IQR: 322–453) at the end. Figure 1 and Table 1 show the data from each health center and the overall values for the considered indicators. The median of the retention in care increased from 94.2% (IQR 91.9–97.3%) to 99.0% (IQR 96.8–99.5%), median LTFU rate reduced from a 1.5% (IQR 1–3.2%) per semester to 0% (IQR 0.0–0.3%) at the end of the period, the total number of deaths increased reaching a plateau after September 2021. Figure 1 shows the trend before (white background) and during the intervention (gray background). All the considered indicators seem to improve after the beginning of the intervention. Mortality

reduction shows a lag in reaching the plateau, while the other indicators show a prompt response at the start of the intervention.

Discussion

The service we analysed involved more than 2,500 HIV-infected adolescents in an adherence-enhancing program in Mozambique. HIV care for adolescents was affected by the pandemic and its impact on health and social systems in many sub-Saharan African countries [11, 12]. However, our data show that specific interventions could be effective and resist external shocks. In our program, retention in care improved after the intervention, reaching 99%; authors agree that interventions should be as tailored as possible according to the social context and address the specific barriers to adherence registered in the sites [2, 20, 21]. “Espaço aberto” was developed in collaboration with local health authorities and international agencies in a long-lasting framework of actions for HIV care on the field. These factors could explain the good outcomes registered. In particular, the type of intervention, based on the involvement of expert clients, young patients managing the support groups, and the organization of side activities (such as role-playing, sports activities, and music events) to increase the linkage of adolescents to the program, seems to be effective. Similarly to our conclusions, other studies found the possible positive role of task shifting in HIV paediatric care [22]. Moreover, mental health should be evaluated when planning health services for adolescents in African countries, as some studies underlined [23, 24]. Our evaluation has the limit of not being a rigorous analysis of a specific intervention, but it is rather an observation of selected outcomes in the occurrence of the implementation of the project. Moreover, we only evaluated overall data about each centre but not clinical or laboratory data, that could be analysed in further studies.

Conclusions

In our opinion, there is no magic bullet able to ensure adherence of adolescent patients, conversely, the present data shows that combined tailored activities could have an impact. Our experience highlights the need for interventions designed for the specific context, based on local personnel and expert clients, and in particular the involvement of young counsellors and socio-psychological support could have a strong effect in increasing adherence.

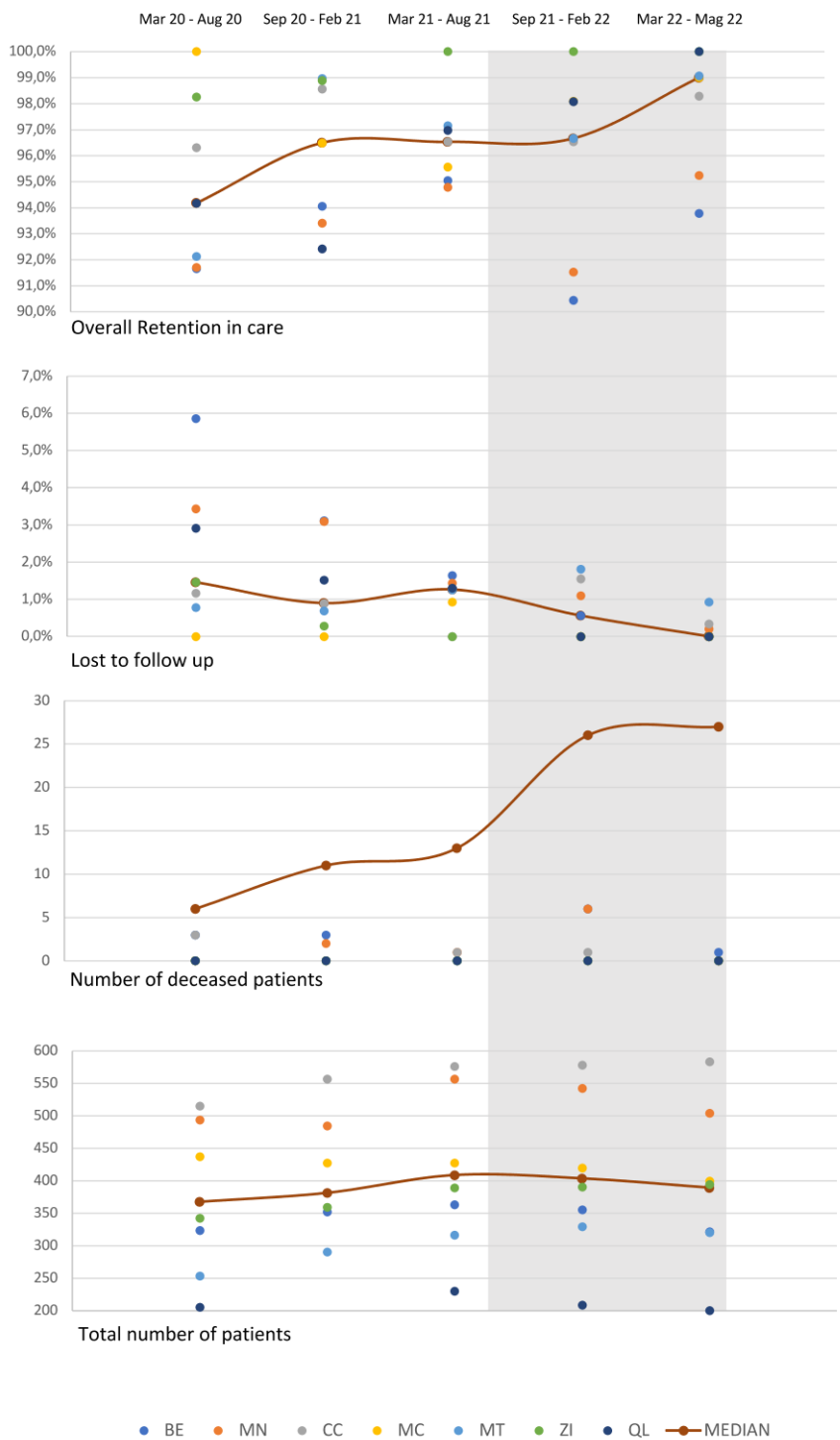


Figure 1: Trends before (white background) and during the intervention (gray background) of the considered variables.

Table 1: Trends of the considered indicators.

	Mar 20–Aug 20	Sep 20–Feb 21	Mar 21–Aug 21	Sep 21–Feb 22	Mar 22–mag 22
Median number of patients in the period (IQR)	343 (289–466)	360 (322–456.5)	390 (340.5–492.5)	391 (343–481.5)	395 (321.5–452.5)
Median retention in care in the period	94.2% (91.9–97.3%)	96.5% (93.7–98.7%)	96.5% (95.3–97.1%)	96.7% (94.0–98.1%)	99.0% (96.8–99.5%)
Median lost to follow-up in the period	1.5% (1.0–3.2%)	0.9% (0.5–2.3%)	1.3% (0.5–1.4%)	0.6% (0–1.3%)	0% (0–0.3%)
Number of deceased patients in the period	6	5	2	13	1

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Informed consent: Informed consent was obtained from all individuals included in this study.

Ethical approval: The study site is working in collaboration and agreement with the local and national health authorities. All the information included in the analysis came from routine data, and patients were anonymized before the extraction. Hence, the study was exempted from specific consent.

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