

## Combination HIV prevention for adolescent men who have sex with men and adolescent transgender women in Brazil: vulnerabilities, access to healthcare, and expansion of PrEP

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In Brazil, HIV incidence among cisgender men in the general population has been rising while decreasing among cisgender women<sup>1</sup>. Similarly, increasing trends of HIV and AIDS incidence have been reported among adolescents<sup>2,3</sup>. This growth is more significant in cisgender men who have sex with men (MSM) and transgender women (TGW). Moreover, surveillance studies have identified an upward trend in HIV prevalence from 14% in 2009<sup>4</sup> to 18% in 2016<sup>5</sup> among MSM older than 18 years; and high HIV prevalence among TGW<sup>6,7</sup>. This trend has been observed among adolescent MSM (aMSM)<sup>8</sup> and adolescent TGW (aTGW)<sup>9,10</sup>.

This surge in the HIV/AIDS epidemic among aMSM and aTGW may be explained by a combination of factors associated with this stage of life, such as sexual practices experimentation and stigma regarding sexual orientation and gender identity<sup>11,12,13,14,15</sup>. Moreover, their increased vulnerability is related to social, economic, and organizational inequalities and structural issues<sup>16,17,18</sup>. Furthermore, studies report a reduction in dialogue and guidance on sexuality issues in schools, an increase in the rate of sexual initiation without using condoms, and unprotected sex. These issues are more severe in adolescents with greater social vulnerability<sup>19,20,21</sup>; among younger MSM, for example, studies have shown fewer HIV testing and higher frequency of unprotected anal sex, leading to the increased risk of the worst epidemic scenario in the coming years<sup>22,23</sup>.

Paradoxically, this is occurring at the same time that an increasing number of HIV control strategies and prevention methods are available in Brazil and globally. One of these strategies is combination HIV prevention, an approach that involves socio-structural and behavioral elements, notably antiretroviral as a prevention tool. In addition, pre-exposure prophylaxis (PrEP) stands out due to its efficacy and effectiveness in preventing HIV infection<sup>24,25,26,27</sup>. PrEP became available in the Brazilian Unified National Health System (SUS), free of charge, in 2018 for several key populations aged 18 years or older. Today, it can be prescribed to anyone who needs it from 15 years old or older.

An effective response to reducing HIV incidence in adolescents requires a knowledge-based policy, specifically for this population, which presents less access to health services and limited research-based knowledge. For several reasons, such as the inadequate application of regulatory and ethical directives, the approval of research with adolescents younger

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than 18 years old is burdensome. It can be frustrating, which often requires legal recourse for authorizing their recruitment. The need for parent and/or guardian consent to participate in a study is a barrier to adolescents' participation in studies regarding sexuality and HIV. This requirement may be considered an infringement on their rights and could leave a knowledge gap for adolescents younger than 18. Knowledge neglect is an issue that should have a solution since adolescents have diverse and different life contexts, which can be violent; thus, research is essential for understanding the individual, social, and cultural specificities of this population group<sup>28</sup>. Therefore, the adolescents' consent to participate in research should be sufficient in such situations. These hurdles explain why most studies limit the inclusion criteria to people aged 18.

To fill this knowledge gap, the project *Study of the Effectiveness of PrEP among Adolescent Men Who Have Sex with Men and Transgender Women Aged 15 to 19 Years at Substantial Risk of HIV Infection (Project PrEP1519)* was established as a demonstration study. This project aims to evaluate PrEP effectiveness and its contribution to reducing the HIV incidence of the target population. It used a cohort design with a three-year follow-up period in three sites in Brazil (Salvador, Belo Horizonte, and São Paulo). Furthermore, the project compared the results of different demand-creation strategies for the recruitment, enrollment, and linkage of adolescents to the PrEP1519 services and friendly settings for LGBTQIA+ adolescents. The project is composed of a multi-professional health team and researchers that foster interdisciplinarity between epidemiologists, physicians, nursing professionals, pharmacists, social scientists, and health planning/administration personnel. This team produces data for project monitoring and promotes research-based knowledge to guide public policies in Brazil and abroad, aiming to extend the PrEP age range to adolescents aged 15 to 17. This objective was recently achieved (2022) by expanding access to PrEP in the SUS for people 15 years old or older<sup>29</sup>.

This *Supplement* aims to present the methodological, quantitative, qualitative, and review research-based data to foster the debate on preventing HIV and other sexually transmitted infections (STIs) among aMSM and aTGW in Brazil. The papers used the baseline results from the PrEP1519 project and related topics in articles such as essays and literature reviews.

The first two articles describe the foundations of PrEP1519, with Dourado et al.<sup>30</sup> focusing on the study methodology, highlighting that the adopted design is based on a collaborative effort of interdisciplinary practices. The paper by Barros et al.<sup>31</sup> analyzed the genesis of the PrEP1519 study and the possible conditions for its development. They showed that PrEP1519 resulted from the articulation of health managers, scientists, and activist stakeholders. The articulation of agents from different fields, with diverse dispositions and points of view at the three locations, contributed to the formulation of a project that sought to generate clinical, epidemiological, and social knowledge to develop broader strategies and an inclusive policy.

Subsequently, the papers seek to establish reflections on adolescents' risk, pleasure, and processes for deciding and incorporating PrEP as a preventive method, as well as the role of different strategies used in the project to inform and sensitize adolescents to the use of prevention. Silva et al.<sup>32</sup> reflected on the relationship between risk and pleasure in the field of HIV care and prevention, putting into perspective the mediation of these new biomedical prevention and care technologies, especially PrEP. Their synthesis showed that adolescents' sexual protective methods are opposed to the adolescents' body, which appears to

be more open, unstable, and somewhat unpredictable. They are also opposed to different prevention norms and discourses, including preventing other STIs. Pena et al.<sup>33</sup>, showed that the incorporation of PrEP as an HIV prevention strategy needs a better understanding of the use of medication and needs to analyze different narratives of aMSM and aTGW, such as adolescents participating in the PrEP1519 Belo Horizonte. Martins et al.<sup>34</sup> sought to understand the perspective of adolescent gay and bisexual men, in addition to transgender women, about the use of HIV prevention methods regarding their sexual practices. The formative research in downtown São Paulo oriented a qualitative investigation with key adolescent informants who shared their views on the dynamics of social interaction, sexual experiences, use and acceptability of HIV prevention methods, and demand-creation of new strategies to inform and to create interest for PrEP. Their findings suggested that public health policy for HIV prevention must recognize adolescents' diversity of life contexts to provide guidance and expand access to information, linkage, and retention in prevention care in health services.

The structural and individual aspects that lead cisgender aMSM and aTGW to present a high vulnerability to HIV and other STIs were analyzed in three articles. Magno et al.<sup>35</sup> estimated the prevalence of HIV and associated factors among aMSM using the baseline data from the PrEP1519 in Salvador; they found a higher HIV prevalence than estimated for the overall male population in Brazil. Furthermore, the study found that individual, social, and programmatic factors were associated with HIV infection among aMSM. Westin et al.<sup>36</sup> highlighted acquired syphilis as a relevant reemerging infection in global public health, particularly among young key populations. Their findings corroborate the epidemiological trend of a high prevalence of syphilis among aMSM and aTGW and the important vulnerability markers.

Two articles discuss the challenges of linking health services to the experiences of using PrEP in the daily life of adolescents – central themes for increasing the effectiveness of PrEP. In the first, Oliveira et al.<sup>37</sup> analyzed the linkage of aMSM and aTGW to the PrEP clinic in Salvador by the mediation of peer navigators. They showed that navigators and adolescents worked together, affected each other, and needed each other to “do” or to produce an emotional bond with care. Santos et al.<sup>38</sup> explored the perceptions and experiences of young homosexual, bisexual, and other MSM from São Paulo and Salvador regarding the search, use, and adherence to PrEP using the intersectional approach, i.e., discussing personal/relational aspects and structural and symbolic dimensions as facilitators and barriers to the continuum of care in PrEP. Their analyses revealed that, in individual/subjective terms, the possibilities of use and the search for PrEP are part of a learning process based on experiences and ideals of pleasure and freedom in the perception of risk and the management of HIV prevention.

Finally, aspects are discussed that may represent barriers to PrEP initiation. Lamônica et al.<sup>39</sup> analyzed factors associated with unwillingness to indicate PrEP by health providers of specialized HIV/AIDS services in Bahia State, Northeast Brazil. The study identified a high level of knowledge of PrEP, but a sizeable proportion of health professionals are unwilling to indicate PrEP. They suggest the expansion of training in combination with HIV prevention, including PrEP, for health providers, especially for physicians and nurses.

We expect that the publication of these results will help to push the agenda for HIV and STIs prevention for adolescents and attract the attention of all relevant stakeholders, including public health authorities, to the specific needs of adolescents.

## Contributors

I. Dourado contributed to the writing and review, and approved the final version to be published. L. Magno contributed to the writing and review, and approved the final version to be published. D. B. Greco contributed to the writing and review, and approved the final version to be published. A. Grangeiro contributed to the writing and review, and approved the final version to be published.

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