

Combined HIV prevention: are we facing a new paradigm?

Prevenção combinada do HIV: estamos diante de um novo paradigma?

Prevención combinada del VIH: ¿estamos ante un nuevo paradigma?

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ABSTRACT

Objective: to reflect on the combined HIV prevention strategy as a new prevention paradigm. **Content:** this is a reflective analysis of the guiding document of the Brazilian response to the HIV epidemic: "Combined HIV prevention: conceptual bases for professionals, workers and health managers", proposed by the Ministry of Health of Brazil, in the light of Thomas Kuhn's reference in his work, "The structure of scientific revolutions". The "new" paradigm, combined prevention, does not show structural changes in prevention strategies, it only incorporates new technologies into its policy. **Final considerations:** combined HIV prevention is not presented as a new prevention paradigm in the Brazilian response to the epidemic, but as a reorganization of prevention strategies from existing paradigms.

Descriptors: HIV; Health Policy; Disease Prevention.

RESUMO

Objetivo: refletir sobre a estratégia da prevenção combinada do HIV como um novo paradigma de prevenção. **Conteúdo:** trata-se de uma análise reflexiva do documento norteador da resposta brasileira a epidemia do HIV: "Prevenção combinada do HIV: bases conceituais para profissionais, trabalhadores(as) e gestores(as) de saúde", proposta pelo Ministério da Saúde do Brasil, à luz do referencial de Thomas Kuhn em sua obra, "A estrutura das revoluções científicas". O "novo" paradigma, a prevenção combinada, não evidencia mudanças estruturais nas estratégias de prevenção, apenas realiza incorporações de novas tecnologias em sua política. **Considerações finais:** a prevenção combinada do HIV não se apresenta como um novo paradigma de prevenção na resposta brasileira à epidemia, mas como uma reorganização das estratégias de prevenção dos paradigmas já vigentes.

Descritores: HIV; política de Saúde; Prevenção de Doenças.

RESUMEN

Objetivo: reflexionar sobre la estrategia combinada de prevención del VIH como nuevo paradigma de prevención. Contenido: se trata de un análisis reflexivo del documento orientador de la respuesta brasileña a la epidemia del VIH: "Prevención combinada del VIH: bases conceptuales para profesionales, trabajadores y gestores de salud", propuesto por el Ministerio de Salud de Brasil, a la luz de Referencia de Thomas Kuhn en su obra, "La estructura de las revoluciones científicas". El "nuevo" paradigma de prevención del VIH, la prevención combinada, no muestra cambios estructurales en las estrategias de prevención, solo incorpora nuevas tecnologías a su política. Consideraciones finales: la prevención combinada del VIH no se presenta como un nuevo paradigma de prevención en la respuesta brasileña a la epidemia, sino como una reorganización de las estrategias de prevención a partir de los paradigmas existentes.

Descriptores: VIH; Política de Salud; Prevención de Enfermedades.

INTRODUCTION

Despite having a history as a world reference in facing the HIV/AIDS epidemic, Brazil presents epidemiological data that reinforce the challenge still faced by the country in prevention guarantees. The data referring to AIDS show a mean of 39,000 new cases per year, with a gradual reduction since 2013. In 2020 and 2021 it was possible to notice accentuated reductions in the number of new cases. This phenomenon may be masked by the COVID-19 pandemic, as the guidelines for social distancing and reorganization of the health services to meet the health emergency caused limitations in access to health^{1,2}.

Between 2010 and 2020, the AIDS detection rate was reduced by 17.2%, representing a drop from 22.2 to 17.8 cases per 100,000 inhabitants between 2011 and 2019. However, the data are not merely for celebration. Regarding HIV, 342,459 cases were notified between 2007 and June 2020, with 41,919 in 2019 alone. In other words, we improved in the treatment policies but we failed to advance with the same strength in the prevention policies¹.

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When examining the exposure category and population groups, certain concentration of cases arising from homosexual/bisexual exposure is observed in black-skinned people, especially black-skinned women, and young men. Among male young individuals aged between 25 and 29 years old there are 52 cases per 100,000 inhabitants, when compared to 17.8 in the general population¹.

Despite the challenge faced by Brazil to reduce the number of infections, the world has never been so close to reaching eradication of HIV infection transmission. The ambitious “90-90-90” goal, determined in 2014 by the Joint United Nations Programme on HIV/AIDS (UNAIDS), set the global commitment that, by 2020, 90% of all people would know their HIV status, 90% of all people diagnosed with HIV would receive uninterrupted antiretroviral (ARV) therapy, and 90% of all people on antiretroviral therapy would achieve viral suppression. A number of mathematical models showed that meeting these targets by 2020 would allow the world to eradicate the AIDS epidemics by 2030. Although the target was not attained in 2020, it still remains as a commitment guide for governments around the world³.

Such being the case, as signatory of the UNAIDS goals, Brazil should improve its prevention strategies. In September 2017, the Department of Chronic Conditions and Sexually Transmitted Infections linked to the Ministry of Health (*Ministério da Saúde*, MS) presented the “Combined Prevention” strategic model.

Despite the model's structure receiving criticism⁴ for the way it was debated among the government, organized civil society and health workers, it foresees the use of a range of biomedical, behavioral and structural technologies to ensure an accessible, efficient and diversified response to the demands of a society marked by vulnerable groups and individuals who suffer violations of their rights. The model aims at informing and educating in order to promote people's autonomy in choosing the prevention method(s) that best fit(s) their life circumstances and conditions. The use of the word “Combined” suggests that there is not only one prevention method, but a variety from which a person can choose and combine them according to their wishes without the need to exclude or replace any⁵.

Combined prevention also acknowledges and emphasizes the equality principle of the Unified Health System (*Sistema Único de Saúde*, SUS) when prioritizing its actions for key and priority population groups. The key populations encompass gay men and other men who have sex with men, trans people, individuals using alcohol and other drugs, people deprived of their freedom and sex workers. These population groups have an HIV/AIDS prevalence rate above the national mean, which is 0.4%. The priority population groups represent the vulnerabilized population segments: young, black-skinned, indigenous and street situation⁵.

The actions foreseen in the “Combined Prevention” model include: prevention of vertical transmission of HIV and other STIs; adoption of the “Harm Reduction” strategy; access to diagnosis and treatment of people with STIs, HIV and/or viral hepatitis; immunization against Hepatitis B and HPV; ensuring uninterrupted treatment of people living with HIV/AIDS (PLHIV); access to and offering tests for HIV and other STIs and viral hepatitis; access to and use of Pre-Exposure Prophylaxis (PrEP) by vulnerable populations; access to Post-Exposure Prophylaxis (PEP) for the entire population that is exposed to infection risk; and use of internal and external condoms and lubricant gel⁵.

The model also foresees actions that aim at combating programmatic vulnerabilities, by recognizing that the functioning of the prevention actions offered by the SUS are based on legal aspects that guarantee the right to health and the fight against stigma and infringements motivated by racism, sexual orientation, gender identity and other forms of exclusion. This is why social participation is indispensable to devise a global response to the population's health problems and needs⁵.

The HIV combined prevention strategy is described in the publication called “*Prevenção combinada do HIV – bases conceituais para profissionais trabalhadores(as) e gestores(as) de saúde*” (“HIV combined prevention – Conceptual basis for professional health workers and managers”), published in 2017 by the Brazilian MS, as a new prevention paradigm anchored in conceptual and epistemological bases and mainly marked by breaking the distinction between prevention and treatment. The aforementioned considering that the main milestone of this strategy is based on the use of ARV as a prevention measure, an input hitherto employed as a treatment measure. Consequently, the MS publication describes that incorporating technologies (PEP, PrEP and treatment as prevention) restructures the HIV prevention strategies, promoting a new paradigm.

Thus, this study aims at reflecting on the HIV combined prevention strategy as a new prevention paradigm in the light of the theoretical assumptions developed by philosopher Thomas Kuhn in his work entitled “The Structure of Scientific Revolutions”.

CONTENT

Thomas Samuel Kuhn was an American physicist and philosopher who revolutionized 20th century scientific epistemology by challenging traditional beliefs that scientific knowledge has developed throughout history in a linear

and evolutionary course, stemming from accumulative progress in which new theories complement previous ones⁶. Based on a detailed investigation of the history of science, Thomas Khun describes that a new theory is never or almost never a mere addition to what is already known. Its assimilation requires reconstructing the theory and reevaluating the previous facts⁷.

Thus, the Logical Positivism of acceptability and choice of theories, only based on the internal procedures of science, is abandoned and, from this, scientific knowledge is understood by its historical construction, the so-called Sociology of Science. In this way, there are subjective, social or even mystical criteria for the construction of science; therefore, science is not an eminently objective enterprise because explanations of empirical phenomena are built through perspectives related to the personal or collective wishes or desires of a scientist or scientific community. For Kuhn, the activity of science is not so different from other social activities⁸.

To develop the work, *Structure of the Scientific Revolutions*, the author makes use of two important concepts, which are addressed in this analysis: paradigm and incommensurability. The paradigm arises from the resolution of a crisis period, “epistemic chaos”, in which a standardized interpretation is redefined by establishing a new context of unanimity for a given scientific community. Having established a paradigm, science enters a period that Kuhn calls “Normal Science” in which scientists have a guide, a model, to conduct and solve scientific problems, called “puzzles”.

The history of science shows that paradigms are replaced by others when, in the activities controlled by Normal Science, anomalies arise which, with time and absence of a resolution, lead scientists to abandon their activities controlled by the accepted paradigm and use different proposals. Periods marked by anomalies and crises lead to a scientific revolution; in other others, to the substitution of an old paradigm with a new one⁸.

The concept of incommensurability emerges when the current paradigm fails to solve a crisis. Consequently, a new theory becomes necessary to respond to the crisis in question, promoting a break between paradigms. However, Kuhn tried to emphasize that incommensurability does not mean incomparability or incommunicability, as new paradigms can present convergence points with emerging or outdated ones. These aspects subjected to correlation can only be understood by means of interpretation or hermeneutics⁹.

Returning to the point of analysis, in its first chapter, the publication called “HIV combined prevention” describes the history of the Brazilian and world responses to the epidemic that culminated in the evolution of prevention paradigms. As a first step, the concept of risk groups arises; in other words, that a population subjected to certain conditioning elements and factors or with certain characteristics would be more likely to having or acquiring a given disease. This characterization took place through a strictly epidemiological bias, serving for countless practices of violation of rights and fundamental guarantees, with an increase of prejudice and stigma, by holding a given social group solely and exclusively responsible for the HIV epidemic⁵.

In the face of the violation of rights, discrimination and hostility generated by the strictly epidemiological approach, a second HIV prevention model emerged in the 1990s, proposed by US epidemiologist Jonathan Mann. It proposed a set of actions that should be articulated and especially ensure the fight against prejudice and discrimination, as well as actions against social determinants, in addition to educational ones, through information vehicles and individual approaches for behavioral changes. This prevention model was based on the concept of vulnerability, which defines that every person is susceptible to infection and may be more or less vulnerable depending on the individual, social and programmatic components or conditions in which they are inserted⁵.

According to the MS, the third moment of the aforementioned paradigmatic evolution is the model marked by breaking the distinction between prevention and treatment. The “new” paradigm is created by articulating the drug strategies with the use of ARV, PEP, PrEP and treatment as prevention, with the strategies established by the previous paradigms⁵.

Combined prevention is grounded on three dimensions identified as factors that contribute to HIV transmission: structural, behavioral and biomedical. Joining these three dimensions in an articulated and integrated response is related to the weaknesses identified in the global history of coping with the epidemic. The first weakness referred to the efforts of prevention activities being excessively focused on reducing the virus transmission risk rather than on issues related to the social factors that increased vulnerability. The second one referred to the fact that the prevention programs were disarticulated and fragmented. Finally, due to the disarticulation in the prevention responses, the evaluation of such responses was consequently fragmented⁵.

Analyzing the MS publication with Thomas Kuhn's work, it can be seen that the term “paradigm” is used in a generic way. In fact, was there any paradigmatic change in HIV prevention? It seems that the Ministry gives some “clothing” to its new prevention strategy, by using resources from normal science to face the problems that are presented.

Following the analogy of the Normal Science “puzzle”, the evolutions in the Brazilian response to HIV have followed the set of beliefs, techniques and values shared by the current paradigm, in order to solve the scientific problems that have been arising without, however, provoking a crisis capable of breaking away from the model. After all, the MS still considers biomedical and behavioral approaches, present since the first responses to the epidemic, as the framework of the “new” combined prevention paradigm.

This phrase, that the paradigmatic evolution of combined prevention lies in breaking the distinction between prevention and treatment, is not convincing. Since 1999, ARV use after occupational exposure and sexual violence has been advocated in Brazil as a measure to prevent HIV infection. In 1994, zidovudine tablets and syrup were already available for the prevention of vertical transmission. In 1990, studies on PEP use after a virus exposure situation were already ongoing¹⁰⁻¹³. However, it was only in 2015 that PEP was recommended due to the risk assessment corresponding to the exposure situation and not due to the exposure category (work-related accident or sexual violence) any longer.

Despite gaining this nomenclature in 2013, treatment as prevention had already shown benefits since 2000, when diverse scientific evidence showed the benefits of timely diagnosis and ARV initiation for the prevention and care of certain population groups, such as pregnant women and people with tuberculosis, sexually transmitted infections and opportunistic infections. However, the leading role of the strategy gains strength with the restructuring of the MS response through the acquisition of diagnostic tests (rapid test and oral fluid test), in addition to the expansion of testing sites, the introduction of new ARV drugs, and the increase in the number of health professionals capable of prescribing ARV¹⁴.

It is noticed that there was no paradigmatic break from the HIV prevention strategy, only a movement of Normal Science towards solving the anomalies identified. Another issue to be raised is that HIV prevention strategies suffer strong interference from the capitalist market model; access to testing and ARV medications were already described as beneficial for the quality of life of people living with HIV and to prevent new infections; however, expansion of the State's offer regarding these inputs has been slow. The costs of the medications and of the HIV diagnosis tests may have delayed a more effective response to the epidemic. Use of the terms “new paradigm” or “paradigmatic break” to describe the HIV combined prevention political strategy seems to be mistaken, as there has not been any break in the specific problem^{7,15,16}.

The preventive approaches and technologies were centered on the biomedical paradigm. Care is permeated by a relationship whereby users must adhere to, accept and collaborate with the schemes prescribed by health professionals in order to leave other forms of social and community support in the background⁴. In this sense, the combined prevention strategy is the “new” name for an already existing paradigm because the organizing principle, the scientific achievements and the manuals are essentially recognized. The country still presents a biomedical and technocratic model that supports the HIV coping policy and hinders a paradigmatic change that meets the social determinants of health.

FINAL CONSIDERATIONS

Combined prevention is a strategy to guide the prevention actions against the epidemic. However, this is not a new paradigm, but a new “clothing” for the current paradigm, which is the biomedical one, still prevailing in health professionals' prescriptive practices, based on biologicism and mechanicism.

Although the proposals recognize components of the biopsychosocial and social production in health and integrality paradigms, it can be seen that the fundamental components of the combined prevention strategy are faced with the offer of hard care technologies: immunization, testing and medication.

The MS observes no goals to induce political, legal, judicial and social changes through intersectoral articulation for a macro-response to the epidemic, through guarantees of basic fundamental rights such as housing, food, income, leisure, culture and fight against racism, sexism and gender violence, among other types of violence.

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