

What is the role of primary health care nurses in the care of HIV-serodiscordant couples?

Abstract

Objective: To analyze scientific evidence regarding the role of primary health care nurses in the care of HIV-serodiscordant couples.

Method: An integrative literature review with no time limit conducted between November 2023 and February 2024 across six databases: PubMed/MEDLINE, Web of Science, EMBASE, CINAHL, BVS, and Scopus. The sample was selected using DeCS and MeSH descriptors: Primary Health Care, HIV Seropositivity, HIV Seronegativity, and their respective synonyms. The research question was formulated using the PICO strategy: P (Population): nurses; I (Interest): care for HIV-serodiscordant couples; Co (Context): primary health care. The final sample was subjected to thematic analysis.

Results: A total of 122 studies were identified. Following the selection and peer-review process, 5 were included in this review. The analysis yielded two thematic categories.

Conclusion: The role of Primary Health Care (PHC) nurses in the care of HIV-serodiscordant couples is a topic of great importance, requiring attention commensurate with the quality of professional care provided. Further studies should be conducted to expand the care process and refine PHC nursing practice.

Keywords: nursing care, primary nursing, HIV seropositivity, HIV seronegativity

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Introduction

HIV infection is currently treated as a chronic disease; therefore, it requires individuals living with the virus to maintain ongoing monitoring of the condition.¹ In this context, HIV/AIDS care has come to require a distinct perspective on the issue, calling for a comprehensive approach involving service coordination and a focus on Primary Health Care (APS).²

Between 2015 and 2016, the United Nations (UN), the Joint United Nations Programme on HIV/AIDS (UNAIDS), and the World Health Organization (WHO) stated that it is possible to end the HIV/AIDS epidemic globally by 2030. They also presented an interim target on the path to eradication for the year 2020: the WHO 90-90-90 target. This target envisioned that, by that year, 90% of all people living with HIV would know their status, 90% of those individuals would be on uninterrupted antiretroviral therapy, and 90% of those under treatment

would have an undetectable and untransmissible (U=U) viral load, thereby preventing the spread of the virus.³⁻⁵

Mixed-serostatus romantic/sexual relationships regarding HIV where one partner is positive and the other negative are common.⁶ Brazil's Ministry of Health (MS) is addressing the importance of this new scenario; it has launched a manual for implementing HIV infection management within primary health care and has promoted the dissemination of successful management practices at the primary care level, signaling a shift away from the current care model centered on Specialized Care Services (SAE).^{7,8}

This reorganization of the care model promotes expanded early diagnosis, improved access to treatment, the implementation of strategies to retain people living with HIV/AIDS (PLWHA) in services through longitudinality and a territorial approach, and comprehensive HIV/AIDS care.⁹ Brazil's Ministry of Health (MS)

is addressing the importance of this issue and discussing the new landscape. It has notably launched a manual for implementing HIV infection management within primary health care and has promoted the dissemination of successful disease management practices at the primary care level, signaling a shift in the care model which, until now, has centered on Specialized Care Services (SAE).⁶

Primary health care nurses play a direct role in reorganizing the care model by promoting earlier diagnosis through health education initiatives and improving access to treatment given that they are authorized to prescribe PrEP/PEP in this setting as well as by leading strategies to retain people living with HIV/AIDS (PLWHA) in care services through longitudinality, a territorial approach, and comprehensive HIV/AIDS care.^{5,9}

Adequate training for primary care nurses is essential incorporating measures, strategies, and continuing education initiatives to address the needs of HIV-serodifferent couples and provide sexual and reproductive health services within the primary health care setting; this ensures that nurses can deliver high-quality, specialized professional care within the scope of their competencies.^{9,10}

To elucidate how nurses provide care to HIV-serodifferent couples within the context of primary health care considering both strengths and weaknesses and to explore avenues for positive change, this study aimed to analyze scientific evidence regarding the role of primary care nurses in the care of HIV-serodifferent couples. The following research question emerged: what scientific evidence exists in the literature regarding the role of primary health care nurses in the care of HIV-serodifferent couples?

Method

This is an integrative review that enables the gathering and synthesis of research findings on a specific topic, allowing for a deeper understanding and the identification of knowledge gaps, thereby contributing to the quality of care practice related to the subject under investigation.¹¹

The development of this study involved the following stages: 1st Formulation of the research question, based on which the descriptors and database search strategy were defined; 2nd Definition of inclusion and exclusion criteria for the studies; 3rd Categorization; 4th Evaluation of the included studies; 5th Interpretation of results; and 6th Synthesis of knowledge.¹¹ The publication selection process followed the recommendations of the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA).¹²

This study was conducted in the city of Recife, Pernambuco (PE), Brazil, between November 2023 and February 2024. The selection of articles based on titles and abstracts took place between November and December, while the selection based on the full-text reading of potential studies occurred between December and January. The data analysis phase took place between January and February 2024.

The research question was formulated according to the PICO strategy: P (Population): nurses; I (Interest): care for HIV-serodifferent couples; Co (Context): primary health care.¹³ Specifically: “What scientific evidence exists in the literature regarding the role of primary health care nurses in providing care to HIV-serodifferent couples?”

The descriptors used are found in the Health Sciences Descriptors (DeCS) database Primary Health Care, HIV Seropositivity, and HIV Seronegativity as well as in Medical Subject Headings (MeSH): Primary Health Care, HIV Seropositivity, and HIV Seronegativity. These were combined using the Boolean operators AND and OR across the following databases: PubMed/MEDLINE, Web of Science,

EMBASE, Cumulative Index to Nursing and Allied Health Literature (CINAHL), BVS/Latin American and Caribbean Health Sciences Literature (LILACS), and Scopus, accessed via the Coordination for the Improvement of Higher Education Personnel (CAPES) journal portal in January 2024.

The search strategy applied to the selected databases was developed in a unique manner, respectively: “Primary Health Care” OR “Care, Primary” OR “Care, Primary Health” OR “Health Care, Primary” OR “Healthcare, Primary” OR “Primary Care” OR “Primary Healthcare” OR “Primary Care Nursing” OR “Care Nursing, Primary” OR “Nursing, Primary Care” OR “Primary Nursing” OR “Care, Primary Nursing” OR “Nursing Care, Primary” OR “Nursing, Primary” OR “Primary Nursing Care” AND “HIV Seropositivity” OR “AIDS Seropositivities” OR “AIDS Seropositivity” OR “Anti-HIV Positivity” OR “Anti-HIV Positives” OR “Anti-HIV Positivity” OR “Antibody Positives, HIV” OR “Antibody Positivity, HIV” OR “HIV Antibody Positives” OR “HIV Antibody Positivity” OR “HIV Seropositivities” OR “Positives, Anti-HIV” OR “Positives, HIV Antibody” OR “Positivity, Anti-HIV” OR “Positivity, HIV Antibody” OR “Seropositivities, AIDS” OR “Seropositivities, HIV” OR “Seropositivity, AIDS” OR “Seropositivity, HIV” AND “HIV Seronegativity” OR “HIV Seronegatives” OR “Seronegatives, HIV” OR “Seronegativity, HIV”.

The inclusion criteria were: national and international articles addressing the role of primary health care nurses in the care of HIV-serodifferent couples, with full texts available via the “CAPES Journal Portal,” covering all research types/approaches, and published in English, Portuguese, or Spanish. It was decided not to set a starting date limit in order to broaden the scope of potential results, as the aim was to capture the largest possible number of articles addressing the research question. Duplicate articles and those that did not directly address the proposed topic were excluded.

To ensure methodological rigor and the reliability of the results, the search for studies was conducted independently by two researchers, thereby avoiding potential errors or bias during the review process. Articles were selected through a two-stage process: screening of titles and abstracts (Phase 1) followed by full-text review (Phase 2). In cases of disagreement, the two reviewers discussed the matter to reach a consensus; assessment by a third researcher was not required.

Data collection involved the use of a validated instrument adapted to the context of the study in question, comprising: identification data (article and journal titles, authors [names], country, year of publication, and language), study context (location), and methodological characteristics (publication type, objective, sample, techniques and instruments, data collection stages, data analysis, main results, implications, and level of evidence).¹⁴

Regarding the level of evidence, the following classification was considered: Level 1: evidence from a systematic review or meta-analysis of all relevant randomized controlled trials, or from clinical guidelines based on systematic reviews of randomized controlled trials; Level 2: evidence derived from at least one well-designed randomized controlled trial; Level 3: evidence obtained from well-designed clinical trials without randomization; Level 4: evidence from well-designed cohort and case-control studies; Level 5: evidence originating from a systematic review of descriptive and qualitative studies; Level 6: evidence derived from a single descriptive or qualitative study; Level 7: evidence from the opinion of authorities and/or reports from expert committees.¹⁵ The included studies were organized with the extracted information, which was descriptively synthesized and presented in a summary table.

Results

The identification of potential studies via databases yielded 122 articles; 31 were duplicates, leaving 91. Following selection based on titles and abstracts according to inclusion and exclusion criteria, 15

articles remained. After a further screening analysis, 8 were excluded and 7 were selected for full-text review; this second stage resulted in the inclusion of 5 publications in this review. This identification and selection process is illustrated in Figure 1.

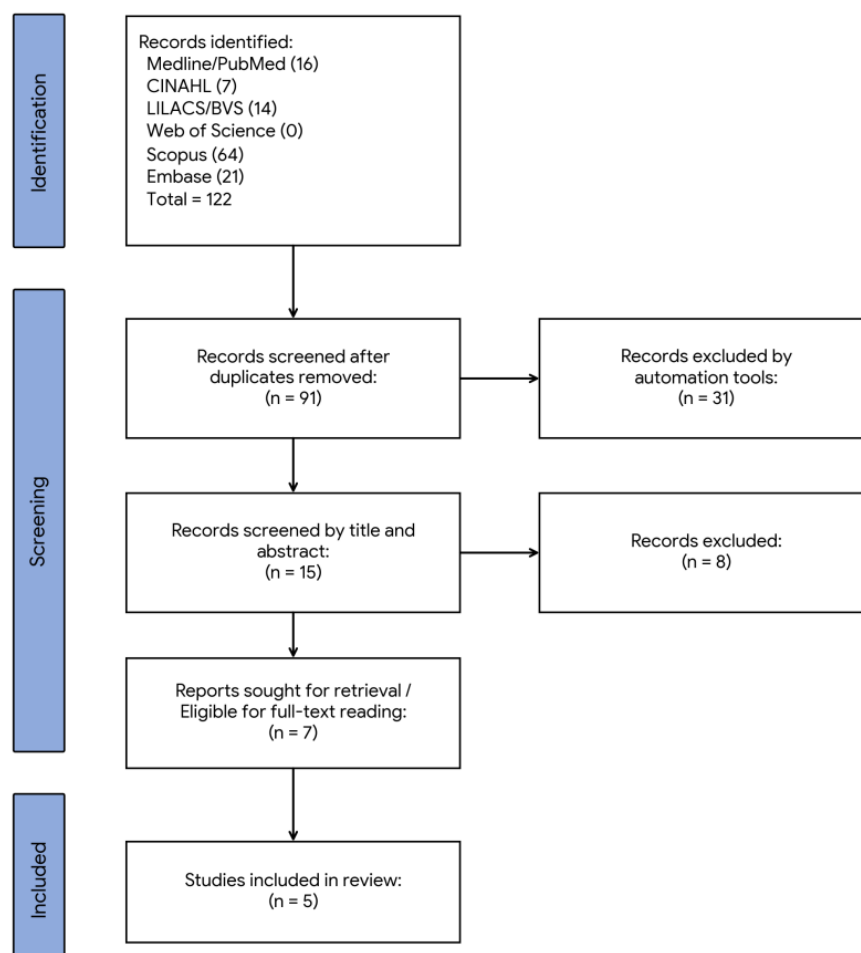


Figure 1 Flowchart of the process for selecting studies included in the integrative review according to the *Preferred Reporting Items for Systematic Review and Meta-Analyses* (PRISMA). Brasília, DF, Brazil, 2021.

Given the focus on analyzing scientific evidence regarding the role of primary health care nurses in the care of HIV-serodifferent couples as identified in the selected studies the descriptive analysis yielded

two thematic categories. Table 1 summarizes the key data extracted from the articles included in this review.

Table 1 Summary of results, prepared by the author, Recife, PE, 2024

Author	Year	Periodical	Method	Goal	Country	Conclusion
Anglemeyer A, et al., ¹⁶	2013	Cochrane	Meta-analysis	To evaluate whether ART is associated with a reduced risk of HIV transmission from an infected sexual partner to an uninfected sexual partner.	EUA	Based on evidence from one RCT and nine observational studies, ART has demonstrated itself to be a potent intervention for HIV prevention in serodiscordant couples.
McMahon J, et al., ²¹	2014	Clinical and Epidemiologic Research	Review	To evaluate pre-exposure prophylaxis (PrEP) for HIV prevention in heterosexual serodiscordant couples.	EUA	Daily oral PrEP is an effective method of primary prevention against HIV transmission for serodifferent couples.

Table 1 Continued....

Mahoney M, et al., ¹⁹	2014	AIDS Care	Qualitative Study	To analyze the discourse of HIV-negative partners in serodiscordant relationships receiving care in public primary health care.	EUA	The participants consistently described their relationships in positive terms, although they acknowledged ups and downs. They spoke of the normalcy and affectionate quality of their interactions. Most identified a close relationship in which they spent little time alone. Participants discussed a wide range of views regarding commitment to their partners. Most saw themselves as being in a long-term, committed relationship with their partners because of love.
Tshililo AR, et al., ²⁴	2019	Curationis	Qualitative, Exploratory, and Descriptive Study	To explore the challenges faced by primary health care nurses regarding the integration of HIV/AIDS services into Primary Health Care Centers.	South Africa	Clear policies regarding the integration of HIV/AIDS services into available primary health care services must be implemented and must include strategies to promote HIV testing and counseling, adherence to ART and scheduled appointments, and disclosure of HIV status.
Galle A et al., ²⁰	2019	BMC Pregnancy and Childbirth	Qualitative Study	Exploring health attitudes and beliefs among policymakers, healthcare providers, and local communities regarding men's involvement in maternal health in southern Mozambique.	Moçambique	A clear strategy at the political level and a multi-level approach are required. Equitable gender relations between men and women must be encouraged in all maternal health interventions, and providers must be trained to involve men in the health-illness process.

Discussion

The discussion regarding the role of primary health care nurses in the care of HIV-serodifferent couples revealed various facets, summarized into two thematic axes to explain the content derived from the studies reviewed “Axis 1 – Health education strategies for HIV/AIDS control” and “Axis 2 – Knowledge and attitudes of users with HIV/AIDS following nursing care in primary health care” as described below:

Axis 1 – Health education strategies for HIV/AIDS control

Antiretroviral drugs have been shown to reduce the risk of mother-to-child transmission of the human immunodeficiency virus (HIV) and are also widely used for post-exposure prophylaxis (PEP) following parenteral and sexual exposures. Sexual transmission rates may be lower in couples where one partner is HIV-infected and the other is not, provided the infected partner is undergoing antiretroviral therapy (ART) and has a viral load of less than 50 copies reaching the “undetectable/untransmittable” (U=U) stage.^{16,17} This information is conveyed through health education initiatives led by community health nurses for heterosexual couples wishing to have children.^{16,18}

Antiretroviral drugs can prevent HIV transmission from an infected sexual partner to an uninfected partner by suppressing viral replication. Overall, uninfected partners in couples where the infected partner is being treated with antiretroviral drugs face at worst a 40% lower risk of infection compared to couples where the infected partner is not receiving treatment.¹⁶

The World Health Organization (WHO) already recommends antiretroviral treatment for all individuals with ≤ 350 CD4 cells/ μ L; however, some studies indicate that couples in which the infected partner has a CD4 count above this level are in a better state of health than those in the early stages of untreated infection. There is strong scientific evidence that, in this group, HIV is less likely to be transmitted to uninfected partners by treated infected partners than by untreated infected partners.^{2,16} All this information is incorporated into HIV/AIDS coping strategies disseminated within community health settings by nurses through health education activities as reported by these professionals during sexual and reproductive health counseling for heterosexual serodiscordant couples seeking to conceive.¹⁹

Primary care nurses conducted health education initiatives aimed at HIV/AIDS control and prevention for heterosexual serodiscordant couples; the success of these efforts likely depended on good adherence, particularly among stable couples. Programs should be designed to include counseling, support, follow-up, and mutual disclosure, as these components can play a role in fostering adherence. In addition to the provision of ART, limitations regarding the resources needed to implement these recommendations beyond ART itself must be addressed.^{16,19}

Increased male involvement during pregnancy is considered an important yet often overlooked factor. Community health nurses have conducted educational initiatives to improve maternal health in sub-Saharan Africa. Intervention studies aimed at improving maternal health primarily target mothers, thereby ignoring the crucial role their partners play in their ability to access prenatal care and healthcare services for preventing and treating infectious diseases such as HIV, in

the case of serodiscordant couples. Very little is known about current levels of male involvement and the barriers existing at various levels.²⁰

As one of the strategies employed by primary health care nurses, reproductive counseling (RC) is understood as a set of actions providing resources to assist individuals in conceiving, as well as to prevent unintended pregnancies and the transmission of the human immunodeficiency virus (HIV) whether in serodiscordant couples or via vertical transmission and to avoid congenital malformations resulting from the concomitant use of antiretrovirals before or during pregnancy. Male participation is of utmost importance in this context, facilitating the dissemination of care and the mutual sharing of knowledge.^{20,21}

Research has shown that such relationships are becoming increasingly common, given the improvements in the quality of life and life expectancy of people living with HIV (PLHIV). In serodifferent relationships, social identities and sexual orientations can be fluid, allowing for a variety of partnership arrangements. Consequently, healthcare professionals should possess the knowledge and initiative to provide guidance on reproductive planning, emphasizing the benefits and risks of HIV transmission while ensuring the couple's health and reproductive rights.^{2,20}

Axis 2 – Knowledge and attitudes of users with HIV/AIDS following nursing care in primary health care

After receiving care from a nurse in a primary care setting, patients noted a series of advantages from consultations with that same professional in the same clinical environment: reduced logistical barriers, better interpretation of laboratory results, and improved care coordination. Having the same provider increased the likelihood of a successful health-related relationship and better addressed individual care needs, offering the opportunity to ask questions, clarify information, and make joint plans.¹⁹

During the nursing consultation, some couples revealed that they practiced sexual abstinence, having realized that sexual intimacy was not the primary connection in their relationship; instead, they identified affection, physical contact, and self-pleasure as key elements. Subsequently, other couples suggested alternatives focused on communication and creativity, realizing that they could enjoy themselves sexually while remaining safe. Barriers to condom use included acting in the heat of the moment (often under the influence of alcohol or other drugs) and a desire to demonstrate complete love and loyalty without any barrier between them.^{19,22,23}

Users acknowledged practicing harm reduction, relying on their partners' active engagement with antiretroviral therapy (ART) and maintenance of an undetectable viral load, believing they had developed immunity to HIV after years of exposure, or adopting lower-risk practices such as using PrEP. Some believed that, over time and with the use of PrEP, they would be free from HIV and safe a belief that is indeed accurate. However, the majority of users had limited knowledge about PrEP and were unaware that it was available for free.^{9,21,22}

It was observed that couples often struggled with various health issues that were inadequately recognized by their partners or by healthcare services staffed by unprepared professionals; furthermore, despite the nursing consultation originating in primary care, they felt more confident in the information provided within this care setting.¹⁹ They cited not only physical ailments but also emotional and cognitive issues most commonly anxiety. The service users noted that their partners also faced significant mental health problems that were

not promptly addressed during care, which focused solely on HIV/AIDS.^{21,22}

Participants encouraged doctors to go beyond addressing their partners' immediate needs and to attend to emotional and cognitive issues as well. They also wanted doctors to focus on their needs, not just on HIV/AIDS. Furthermore, they believed that the partner testing positive consistently received the healthcare teams' attention and had more resources available to them something that became evidently clear following the nursing consultation.¹⁹

Some users recognized the need for privacy or for speaking more openly than they could in their partners' presence; the consultation with the community health nurse was crucial, as it provided the necessary space for them to be honest with each other at a later time. They often achieved this through home visits when needed.^{9,19,21}

When couples reported being sexually active, "risk-reduction" strategies were adopted for those who acknowledged engaging in risky sexual behaviors with their partners. These strategies addressed the lack of knowledge often coupled with fear regarding the need to use PrEP and condoms as preventive barriers to ensure optimal sexual health when a partner is HIV-positive, as well as the misconception that reproduction was far removed from their reality.^{24,25}

It was found that a large proportion of HIV-infected individuals undergoing highly active antiretroviral therapy were in stable, long-term relationships, and that these factors were addressed and questions resolved during nursing consultations. The heterogeneity of the sample is a strength in terms of representing the views of individuals of varying ages and sexual orientations. Participants were more likely to be in a stable, long-term relationship with a partner on antiretroviral therapy; furthermore, sexual and reproductive health played a significant role in their lives, as they had numerous questions regarding reproduction and intimate health.¹⁹

Conclusion

HIV-serodifferent couples engage in everyday activities, strive to lead a life considered normal, and maintain silence regarding the diagnosis due to prejudice and stigma. The relationship between the couple and their child reflects the shared experience of reproductive planning and pregnancy as a form of mutual support. As a contribution to healthcare for this population, it is essential to recognize that people living with HIV/AIDS can safely exercise their sexual and reproductive rights within the primary healthcare setting, facilitated by nursing professionals. There is also a need to recognize the couple as a unit of care in order to overcome the fragmentation of reproductive health services specifically regarding prenatal and childbirth care and to broaden the focus of attention beyond the traditional concentration on the health of the woman and child. Primary health care nurses can engage men within the context of preventive men's health as active participants in the primary care process when they are directly involved in the lived reality of the sexual and reproductive health of an HIV-serodifferent couple.

Measures focused on training primary health care nurses are necessary to ensure the competent delivery of health education one that goes beyond the commonly known HIV prevention strategies for serodifferent couples (such as PrEP and condoms) to include and normalize sexual and reproductive health care for this population, adopting a social and transformative approach.

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Conflict of interest

The authors declare that there is no conflict of interest.

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References

1. Silva VGF, Nogueira ILA, Elias TMN, et al. Parceiros sexuais sorodiferentes quanto ao HIV: representações sociais dos profissionais de serviços de saúde. *Rev Bras Enferm*. 2022;75(6):e20210867.
2. Organização Mundial da Saúde (OMS). *HIV Programme: Achieving our goals*. Operational plan 2014-2015. Paris: OMS; 2014.
3. Organización Mundial de la Salud (OMS). *Global health sector strategy on HIV: 2016-2021*. 2016.
4. United Nations Programme on HIV/Aids (Unaids). *HIV Prevention 2020 Road Map*. 2017a.
5. Lucas MCV, Böschmeier AGE, Souza ECF. On the present and future of the HIV/Aids epidemic: combination prevention in question. *Physis: Revista de Saúde Coletiva*. 2023;33:e33053.
6. Brasil. Protocolo Clínico e Diretrizes Terapêuticas para a Prevenção da Transmissão Vertical de HIV, Sífilis e Hepatites Virais. Brasília: Secretaria de Vigilância em Saúde. Departamento de Doenças de Condições Crônicas e Infecções Sexualmente Transmissíveis, 2019.
7. Ministério da Saúde (BR). *Secretaria de Atenção à Saúde. Caderno de Boas Práticas em HIV/AIDS na Atenção Básica*. Brasília (BR): MS; 2014a.
8. Ministério da Saúde (BR). *Secretaria de Atenção à Saúde. Cinco passos para a implementação do manejo da infecção pelo HIV na Atenção Básica*. Brasília (BR): MS; 2014b.
9. Colaço AD, Meirelles BHS, Heidemann ITSB, et al. Care for the person who lives with HIV/AIDS in primary health care. *Texto Contexto Enferm*. 2019;28:e20170339.
10. Araújo BC, Nascimento BG, Santos PHF, et al. Saúde sexual e reprodutiva de mulheres com HIV/aids: revisão integrativa. *Rev Eletr Enferm*. 2021;23:67527.
11. Mendes KDS, Silveira RCCP, Galvão CM. Integrative literature review: a research method to incorporate evidence in health care and nursing. *Texto Contexto Enferm*. 2008;17(4):758–764.
12. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372(71):1–9.
13. Karino ME, Felli VEA. Evidence-based nursing, joanna briggs institute, systematic review: advances and innovations. *Ciênc Cuid Saúde*. 2012;11(5):11–15.
14. Ursi ES, Galvão CM. Perioperative prevention of skin injury: an integrative literature review. *Rev Latino Am Enfermagem*. 2006;14(1):124–131.
15. Melnyk BM, Fineout-Overholt E. *Evidence-based practice in nursing & healthcare: a guide to best practice*. Philadelphia: Lippincott; 2011. Making the case for evidence-based practice and cultivating a spirit of inquiry; p. 3–24.
16. Anglemeyer A, Horvath T, Rutherford G. Antiretroviral therapy for prevention of HIV transmission in HIV-discordant couples. *JAMA*. 2013;310(15):1619–1620.
17. Pinto ACS, Queiroz MVO, Gubert FA, et al. Health education on the prevention of HIV/AIDS with young male crack users. *Texto Contexto Enferm*. 2016;25(3):e4070015.
18. Caxias MA, Cavalcanti AJCA, Ribeiro GS, et al. HIV/AIDS in old age: A silent challenge for psychology in Brazil. *Gerontol Geriat Stud*. 2025;10(1):GGS.000728.
19. Mahoney M, Weber S, Bien M, et al. “I have it just like you do”: voices of HIV-negative partners in serodifferent relationships receiving primary care at a public clinic in San Francisco. *AIDS Care*. 2015;27(3):401–408.
20. Galle A, Cossa H, Griffin S, et al. Policymaker, health provider and community perspectives on male involvement during pregnancy in southern Mozambique: a qualitative study. *BMC Pregnancy and Childbirth*. 2019;19(1):384.
21. McMahon J, Myers JE, Kurth AE, et al. Oral pre-exposure prophylaxis (PrEP) for prevention of HIV in serodiscordant heterosexual couples in the United States: opportunities and challenges. *AIDS Patient Care STDs*. 2014;28(9):462–474.
22. Damião JJ, Agostini R, Maksud I, et al. Caring for people living with HIV/Aids in primary health care: a new agenda for facing vulnerabilities? *Saúde Debate*. 2022;46(132):163–174.
23. De Souza MC, Cavalcanti AJCA, Xavier JMV, et al. Pre-exposure prophylaxis prep to acquired human immunodeficiency virus HIV among men who have sex with men MSM: contributions of modern nursing to the elderly population. *MOJ Gerontol Ger*. 2023;8(2):34–37.
24. Tshililo AR, Netshikweta LM, Nemathaga LH, et al. Challenges of primary healthcare nurses regarding the integration of HIV and AIDS services into primary healthcare in Vhembe district of Limpopo province, South Africa. *Curationis*. 2019;42(1):e1–e6.
25. Ouzzani M, Hammady H, Fedorowicz Z, et al. Rayyan a web and mobile app for systematic reviews. *Syst Rev*. 2016;5(1):210.