

Psychological Consequences in Men Who Have Sex with Men Newly Diagnosed with HIV: A Scoping Review

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ABSTRACT

The risk of acquiring HIV is 28 times higher in men who have sex with men (MSM), a group identified by UNAIDS as a key population. The extant literature indicates that this population experiences significant psychosocial problems in the form of discrimination and stigmatization, which would serve to exacerbate the impact of an HIV diagnosis. The objective of this research was to present the findings of studies conducted between 2012 and 2022 on the psychological effects of a recent HIV diagnosis among men who have sex with men (MSM). To this end, a scoping review was conducted to examine the psychological consequences of a recent HIV diagnosis in men who have sex with men (MSM). In accordance with the PRISMA method, a total of 27 articles were identified for review, upon which a thematic analysis was conducted. The majority of the studies were published in journals with a focus on sexuality and/or HIV/AIDS, with the majority of these studies originating from China. The analysis provides information on the epidemiology of psychiatric disorders and the psychosocial changes that MSM experience after diagnosis, including the development of clinical and subclinical symptoms. Furthermore, the emergence of post-traumatic growth has been documented, with the potential for this to be influenced by psychological variables preceding the acquisition of the virus. Resilience, disease perception, and self-stigma related to sexual activity with men and HIV represent significant sociocultural factors in the psychological impact. These findings suggest that psychological intervention is a crucial aspect of care and necessitates social and cultural sensitivity.

KEYWORDS: Mental health, HIV, men who have sex with men, scoping review

1. Introduction

Although the number of people newly infected with HIV has decreased worldwide in the last 10 years (Joint United Nations Programme on HIV/AIDS [UNAIDS], 20-

23), in Chile HIV diagnoses increased from 2013 to 2018, from 4,014 to 6,948 new cases. In 2019, the incidence will be similar to the previous year and will decrease during the pandemic years. At the end of 2023, 4,795 new cases were diagnosed (Instituto de Salud Pública de Chile, 2024). Men accounted for 82.2% of newly diagnosed cases, with a male-to-female ratio of 4.6. In Chile, the main mode of transmission is sexual (99%); the main mode of exposure was sexual practices between men, accounting for 61% of cases reported in 2019 (Quarterly Epidemiological Bulletin Human Immunodeficiency Virus (HIV) Infection Chile, 2019).

Globally, depressive disorders and other mental health problems are common comorbidities among people living with HIV (PLHIV) (Peltzer et al., 2015; Rezaei et al., 2019). In relation to suicide, Rafiei et al. (20-23) found a prevalence of 24.9% among PLHIV, similar to previous studies (Tsegay & Ayano, 2020; Lemsalu et al., 2017).

Men who have sex with men (MSM) aged 15-49 are 28 times more likely to contract HIV than the general population (UNAIDS, 2023). These people face significant difficulties in terms of discrimination and stigma, in addition to the impact of a recent HIV diagnosis. Over the past 40 years, there has been increasing attention to the multidimensional mental health vulnerabilities of MSM, but there is a lack of research on mental health issues among MSM newly diagnosed with HIV (Operario et al., 2022; Lau et al., 2018).

Discrimination and stigma have serious consequences for access to information, prevention, and timely diagnosis of HIV. In addition, myths about the virus are a barrier to accessing health services, which delays timely treatment (Bermúdez-Román et al., 2015). Thus, several studies confirm the direct or mediated influence of social support on antiretroviral treatment adherence behaviors (Vilató et al., 2015).

The aim of this review is to systematize the results of research on the psychological impact of recently diagnosed HIV-infected MSM, in order to contribute to the knowledge of physical and psychological health care in this population.

2. Material and method

Design

A systematic scoping review was conducted with the objective of elucidating the scientific literature published between 2012 and 2022 on the psychological consequences experienced by men who have sex with men (MSM) in the context of recent HIV diagnoses. This study was conducted in accordance with the PRISMA model.

Identification of publications and selection for review

The search for relevant publications was conducted in the Web of Science, Psychology and Behavioral Sciences Collection, Medline, and Scopus databases.

In order to conduct the search, a set of descriptors in English were employed, which

were grouped into three categories: (1) temporality: The search terms included "newly HIV diagnosed," "recent HIV diagnosed," "new HIV diagnosed," "initial HIV diagnosed," and "recently HIV diagnosed."

(2) Samples: The search terms included "MSM," "men who have sex with men," "gay," "bisexual," and "homosexual." The third category was the construct to be investigated. The terms "mental health," "depression," "anxiety," "suicide," "substance abuse," and "substance use disorders" were also included.

The exclusion criteria were as follows: (1) studies validating questionnaires and instruments, meta-analyses, or other systematic reviews; (2) studies involving individuals who acquired HIV through syringe use or drug use; (3) studies examining HIV incidence and prevalence; (4) studies focusing on the transgender population; and (5) studies indicating a diagnosis occurring after two years.

A total of 404 publications were identified, of which 373 met the inclusion criteria and were selected for further analysis. Three hundred and forty-four were excluded, and of the remaining twenty-nine articles, two were excluded at the time of the review. Consequently, the total number of articles subjected to analysis was 27 (see Figure 1).

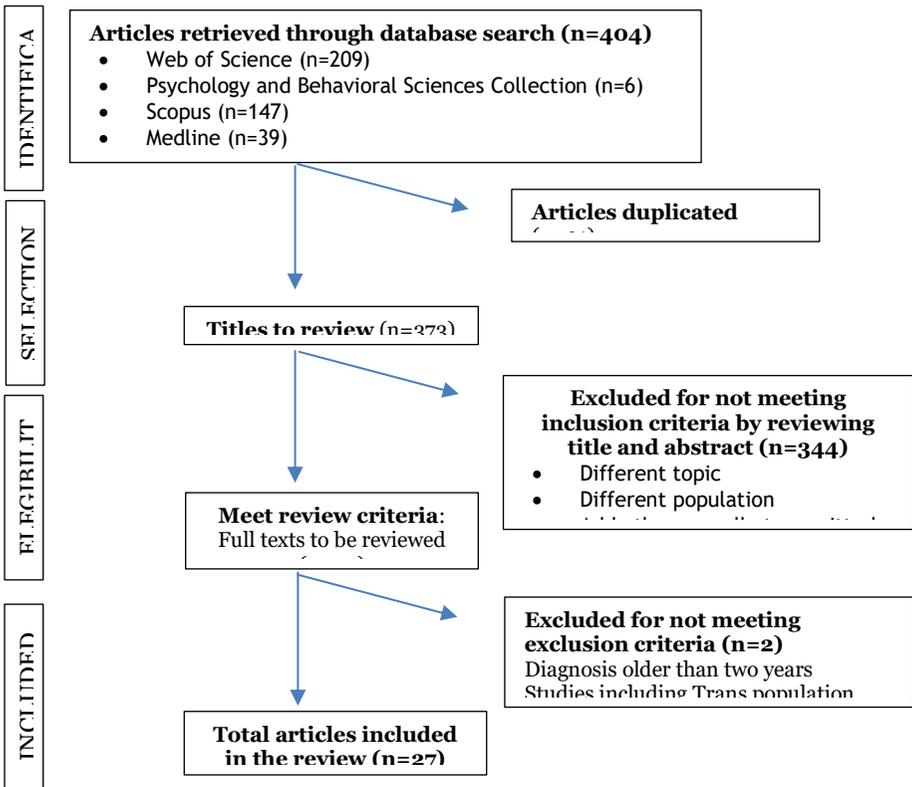


Figure 1 Identification of publications and selection to carry out the study

Data extraction and analysis procedure

Once the articles had been selected, they were organized in a database in order to apply the extraction categories, as detailed in Table 1. The initial categorization was conducted by the first and third authors, who also entered the data from the included studies.

Table 1 Summary of studies included in the systematic review

Id	Authors	Year	Title	Timing of diagnosis	Objective	Population studied	N	Instruments used
1	Mo, P. K. H., Lau, J. T. F., & Wu, X.	2018	Relationship between illness representations and mental health among HIV-positive men who have sex with men.	12 months	To explore associations between representations of HIV disease and mental health (suicidal ideation and depression) and mediating effects of emotional representations on associations between cognitive representation and mental health among MSM who were newly diagnosed in China	China	225	1.- Sociodemographic and medical survey. 2.- Depression subscale of the Chinese Depression, Anxiety and Stress Scale (DASS) 3.- Revised Disease Perception Questionnaire for HIV (IPQ-R-HIV)
2	Li, H., Holroyd, E., Li, X., & Lau, J.	2015a	A qualitative analysis of barriers to accessing HIV/AIDS-related services among newly diagnosed HIV-positive men who have sex with men in China.	6 months	To explore barriers to accessing HIV/AIDS-related services from the perspective of newly diagnosed HIV-positive men who have sex with men.	China	31	In-depth interview
3	Liu, Y., Vermund, S. H., Ruan, Y., Liu, H., Rivet Amico, K., Simoni, J. M., ... & Qian, H. Z.	2018	Peer counselling versus standard-of-care on reducing high-risk behaviors among newly diagnosed HIV-positive men who have sex with men in Beijing, China: a randomized intervention study.	Diagnosis was part of the study	To design an intervention to explore whether peer counselling to reduce high-risk behaviors among newly diagnosed HIV-positive Chinese men who have sex with men (MSM).	China	367	Sociodemographic survey.
4	Elopre, L., Ott, C., Lambert, C. C., Amico, K. R., Sullivan, P. S., Marrazzo, J., ... & Turan, J. M.	2021	Missed prevention opportunities: Why young, black MSM with recent HIV diagnosis did not access HIV pre-exposure prophylaxis services.	12 months	Exploring awareness and barriers to acceptance of HIV pre-exposure prophylaxis (PrEP) in BYMHSH	USA	23	In-depth interview
5	Burton, N. T., Misra, K., Bocour, A., Shah, S., Gutierrez, R., & Udeagu, C.	2019	Inconsistent condom use with known HIV-positive partners among newly diagnosed HIV-positive men who have sex with men interviewed for partner services in New York City, 2014.	6 months	To know the factors related to condomless anal intercourse with known HIV-positive partners among MSM.	USA	95	Standard PS interview includes sociodemographic characteristics, risk of HIV transmission (e.g., sex with HIV-positive people, sex without condoms, needle sharing), and recent sexual and drug use behaviors.
6	Gourlay, A., Fox, J., Gafos, M., Fidler, S., Nwokolo, N., Clarke, A., ... & Hart, G.	2017	A qualitative study exploring the social and environmental context of recently acquired HIV infection among men who have sex with men in South-East England.	12 months	To explore the social and environmental context in which new HIV infections occurred among MSM in London and Brighton in 2015.	UK	21	In-depth interview
7	Vallabhaneni, S., McConnell, J. J., Loeb, L., Hartogensis, W., Hecht, F.	2013	Changes in seroadaptive practices from before to after diagnosis of recent HIV infection among men who have sex with men	12 months	To measure changes in sexual behavior in men who have sex with men, from the time of diagnosis and longitudinally over time, using seroadaptive	USA	237	Audio-Computer-Assisted Self Interview (ACASI)

	M., Grant, R. M., & Pilcher, C. D.			practices.				
8	Gilbert, M., Taylor, D., Michelow, W., Grace, D., Balshaw, R., Kwag, M., ... & Rekart, M.	2018	Sustained reduction in sexual behavior that may pose a risk of HIV transmission following diagnosis during early HIV infection among gay men in Vancouver, British Columbia	Indicates recent diagnosis	Examine changes in sexual behavior that may pose a risk of HIV transmission (anal sex without condom use) with a partner who is serodiscordant or of unknown status.	Canada	25	Semi-structured interview, applied by personal interview or by telephone call.
9	Yu, N. X., Chen, L., Ye, Z., Li, X., & Lin, D.	2017	Impacts of making sense of adversity on depression, posttraumatic stress disorder, and posttraumatic growth among a sample of mainly newly diagnosed HIV-positive Chinese young homosexual men: The mediating role of resilience	2 years	To investigate hypothetical pathways to predict symptomatology and post-traumatic growth (PTG) in a sample of Chinese male HIV (PHIV) patients who were primarily newly diagnosed, young, and homosexual.	China	141	1.- Chinese sense of adversity scale. 2.- Connor-Davidson Resilience Scale (CD - RISC). 3.- Patient health questionnaire. 4.- Scale of impact of the event. 5.- Post-traumatic growth inventory 1.- PHQ-9 2.- BASE-6 3.- HIV Distress and Coping Questionnaire 4.- CSQ-18 5.- AFAS 6.- AIM 7.- TAQ 8- Qualitative exit interview
10	Yang, J. P., Simoni, J. M., Dorsey, S., Lin, Z., Sun, M., Bao, M., & Lu, H.	2018	Reducing distress and promoting resilience: a preliminary trial of a CBT skills intervention among recently HIV-diagnosed MSM in China	12 months	To assess the usefulness of a brief psychological intervention, aimed at reducing discomfort and promoting resilience	China	10	1. General Self-Efficacy Scale (GSES); 2. Hospital Anxiety and Depression Scale (HADS)
11	Wang, N., Wang, S., Qian, H. Z., Ruan, Y., Amico, K. R., Vermund, S. H., ... & Zheng, S.	2019	Negative associations between general self-efficacy and anxiety/depression among newly HIV-diagnosed men who have sex with men in Beijing, China.	Diagnosis was part of the study	To assess the relationship between self-efficacy, depression, and anxiety in Chinese MSM recently diagnosed with HIV	China	367	1. Hospital Anxiety and Depression Scale (HADS). 2.- Steward's HIV stigma scale. 3.- Neiland's homosexual stigma scale
12	Tao, J., Wang, L., Kipp, A. M., Qian, H. Z., Yin, L., Ruan, Y., ... & Vermund, S. H.	2017a	Relationship of stigma and depression among newly HIV-diagnosed Chinese men who have sex with men.	Diagnosis was part of the study	To assess the relationship between HIV-related stigma and depression in newly diagnosed MSM	China	367	1. HIV/AIDS Stress Scale 2. Social Support Rating Scale (SSRS) 3. PHQ-9 4. Generalized Anxiety Disorder Scale (GAD-7)
13	Li, H., Tucker, J., Holroyd, E., Zhang, J., & Jiang, B.	2017a	Suicidal ideation, resilience, and healthcare implications for newly diagnosed HIV-positive men who have sex with men in China: a qualitative study.	6 months	To examine suicidal ideation, resilience, and health care implications of new HIV diagnoses among MSM	China	31	Semi-structured interview
14	Luo, R., Silenzio, V., Huang, Y., Chen, X., & Luo, D.	2020	The disparities in mental health between gay and bisexual men following positive HIV diagnosis in China: a one-year follow-up study	1 mes	To determine the change in mental health, with respect to depression and anxiety, among gay and bisexual men living with HIV one year after diagnosis and the disparities in mental health trajectories among them.	China	354	1. HIV/AIDS Stress Scale 2. Social Support Rating Scale (SSRS) 3. PHQ-9 4. Generalized Anxiety Disorder Scale (GAD-7)
15	Bayona, E., Menacho, L., Segura, E. R., Mburu, G., Roman, F., Tristan, C., ... "Cabello, R.	2017	The experiences of newly diagnosed men who have sex with men entering the HIV Care Cascade in Lima, Peru, 2015–2016: a qualitative analysis of counselor-participant text message exchanges	3 months	Understanding the experiences of MSM newly diagnosed with HIV	Peru	40	Text message
16	Abler, L., Sikkema, K. J., Watt, M. H., Hansen, N. B., Wilson,	2015	Depression and HIV serostatus disclosure to sexual partners among newly HIV-diagnosed men who have sex with men	3 months	To examine the relationship between depression and HIV disclosure to partners after diagnosis among MSM	USA	102	1.- BDI 2.- Computer-assisted self-interview (CASI) 3.- Self-report

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	P. A., & Kochman, A.							
17	Li, H., Holroyd, E., & Lau, J.	2015b	Exploring unprotected anal intercourse among newly diagnosed HIV positive men who have sex with men in China: an ethnographic study.	6 months	To explore intrapersonal, interpersonal, and sociocultural aspects in the context of unprotected anal sex in a Chinese population group.	China	31	Semi-structured interview
18	Wang, N., Huang, B., Ruan, Y., Amico, K. R., Vermund, S. H., Zheng, S., & Qian, H. Z.	2020	Association between stigma towards HIV and MSM and intimate partner violence among newly HIV-diagnosed Chinese men who have sex with men.	Diagnosis was part of the study	To assess the association between HIV stigma and homosexuality-related stigma and IPV among newly diagnosed HIV MSM in China	China	367	1.- Steward's HIV stigma scale 2.- Neilands' homosexual stigma scale
19	Bilardi, J. E., Hulme-Chambers, A., Chen, M. Y., Fairley, C. K., Huffam, S. E., & Tomnay, J. E.	2019	The role of stigma in the acceptance and disclosure of HIV among recently diagnosed men who have sex with men in Australia: A qualitative study.	12 months	To explore the experiences of men who have sex with men (MSM) newly diagnosed with HIV and their partner notification practices.	Australia	15	Semi-structured interview.
20	Lau, J. T., Wu, X., Wu, A., Wang, Z., & Mo, P. K.	2018	Relationships between illness perception and post-traumatic growth among newly diagnosed HIV-positive men who have sex with men in China	12 months	To Examine the Associations Between Disease Perception and Post-Traumatic Growth Among 225 NHMSM in Chengdu, China	China	225	1.- PTG scale (based on Milam's work aimed at PLWH). 2.- Revised HIV Disease Perception Questionnaire (IPQ-R-HIV)
21	Wang, Z., Wu, X., Lau, J. T. F., Mo, P. K. H., Mak, W. W. S., Wang, X., ... & Jiang, H.	2017	Prevalence of and factors associated with unprotected anal intercourse with regular and nonregular male sexual partners among newly diagnosed HIV-positive men who have sex with men in China	12 months	To investigate the prevalence and multidimensional factors associated with unprotected anal sex with regular male sex partners ("regular partners") and non-regular male sex partners ("non-regular partners") among newly diagnosed HIV-positive men who have sex with men (MSM) in Chengdu, China.	China	225	Computer-aided method
22	Tao, J., Vermund, S. H., Lu, H., Ruan, Y., Shepherd, B. E., Kipp, A. M., ... & Qian, H. Z.	2017b	Impact of depression and anxiety on initiation of antiretroviral therapy among men who have sex with men with newly diagnosed HIV infections in China.	Diagnosis was part of the study	To assess the relationship between depression, anxiety, and the initiation of ART in a cohort of newly diagnosed Chinese MSM	China	367	Hospital Anxiety and Depression Scale (HADS)
23	Crosby, R. A., Mena, L., & Arnold, T.	2017	Disclosure of newly diagnosed HIV infection and condom use at first sex after diagnosis: a study of young Black men who have sex with men.	Newly diagnosed report	The first purpose of the present study was to determine whether young black men who have sex with men (YBMSM) disclose their newly diagnosed HIV infection to a male or female partner, and to determine whether this disclosure is related to condom use; the second was to identify correlates of disclosing newly diagnosed HIV infection to male sexual partners, including a measure of partner-related barriers to condom use.	USA	125	Online Self-Administered Questionnaire (Provo)
24	Li, H. H., Holroyd, E., Lau, J., & Li, X.	2015b	Stigma, subsistence, intimacy, filial piety, and mental health problems among newly HIV-diagnosed men who have sex with men in China	6 months	To explore potential socio-ecological factors associated with mental health problems among newly diagnosed HIV-infected migrant men who have sex with men	China	31	In-depth interview
25	Li, H., Sankar,	2017c	Safer sex practices among	6 months	Understand the	China	31	1.- In-depth

	A., Holroyd, E., & Jiang, B.	newly diagnosed HIV-positive men who have sex with men in China: results from an ethnographic study		fundamentals of safer sex practices adopted by MSM with newly diagnosed HIV.			interview
26	Grace, D., Chown, S. A., Kwag, M., Steinberg, M., Lim, E., & Gilbert, M.	2015	12 months	To explore the sex life narratives of gay men after their diagnosis with acute or recent HIV infection.	Canada	25	2.- Observation of participants 1.- Questionnaire 2.- In-depth interview
27	Tao, J., Qian, H. Z., Kipp, A. M., Ruan, Y., Shepherd, B. E., Amico, K. R., ... & Vermund, S. H. (2017).	2017c	Diagnosis was part of the study	To explore the effect of depression and anxiety on adherence to antiretroviral therapy (ART) among MSM with newly diagnosed HIV infections.	China	228	Hospital Anxiety and Depression Scale (HADS)

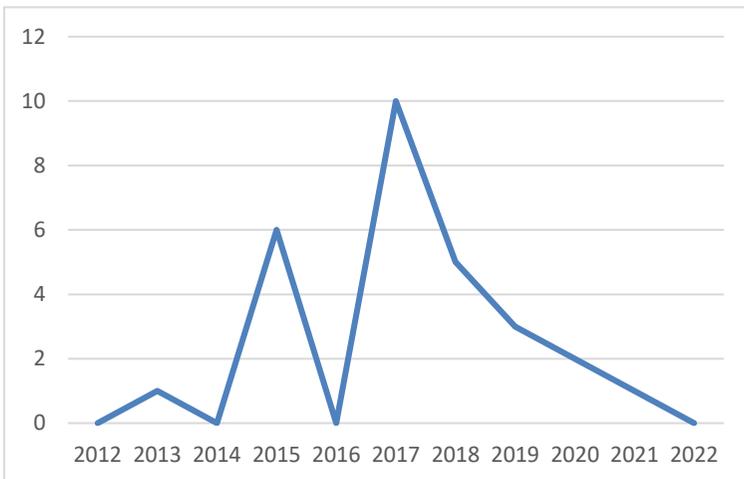
3. Results

The findings of this systematic review are presented in two sections. Firstly, the conditions of production of the studies are presented, and secondly, a thematic synthesis of the research analyzed is provided.

1. Production conditions of the studios

The articles under review were published between 2013 and 2021. Figure 2 illustrates the considerable heterogeneity in relation to the number of publications between 2012 and 2022. With regard to the journals in which these studies were published, it is notable that approximately half of them are highly specialized journals in the field of HIV/AIDS (N = 14, 51.8%). The journals in which these studies were published include AIDS and Behavior, AIDS Care, and the International Journal of STD & AIDS.

Figure 2 Number of articles published between 2012 and 2022



All participants had been diagnosed with HIV within the past two years. A total of 20 articles (63% of the total) were identified as corresponding to studies with participants diagnosed with the virus within the past 12 months. Of the

mentioned studies, six included participants who had been diagnosed with HIV within the past six months. One study was conducted with individuals diagnosed within the previous month (Luo et al., 2020), and two studies (7.4%) did not indicate temporality, only noting that the participants had been recently diagnosed (Gilbert et al., 2018; Crosby, 2017).

With regard to the objectives of the research, approximately half (N = 13, 48%) sought to examine mental health, particularly the relationship between depressive symptomatology, anxiety, and suicide with other constructs such as resilience, HIV stigma, homosexual stigma, intimate partner violence, disclosure of serological status, and initiation of antiretroviral therapy (ART) (e.g., Mo et al., 2018; Luo et al., 2020; Abler et al., 2015). A quarter of the studies (N = 7, 26%) examined the obstacles that impede self-care in the context of HIV. To a lesser extent, the research evaluated behavioral changes after HIV diagnosis (N = 5, 19%), with a particular focus on sexual behavior (e.g., Vallabhaneni et al., 2013; Gilbert et al., 2018). Finally, only a small number of studies (2.7%) concentrated on the design or assessment of psychological interventions (e.g., Liu, 2018; Yang et al., 2018).

When the data are disaggregated by nationality, it is notable that a significant proportion of the studies analyzed are from China (N = 17, 63%). This phenomenon can be attributed, in part, to the inclusion of six articles from the "Multi-Component HIV Intervention Packages for Chinese MSM (China MP3)," a research initiative conducted between 2013 and 2014 with financial support from the government. The objective of this study was to facilitate the initiation of antiretroviral therapy (ART) among men who had recently been diagnosed with HIV in Beijing. Conversely, studies examining the North American population (N = 7, 26%) were also identified. These studies focused on the United States and Canada. The Australian, British, and Peruvian populations were represented in a single article each.

The number of participants in the research studies ranged from 10 to 367. Two-thirds of the articles (66.6%) employed quantitative methodology, 30% qualitative, and only one study considered a mixed methodological design (Grace et al., 2015). The total number of participants in the selected research is 2,059.

In quantitative studies, the instruments utilized can be classified into two principal categories. The first category of instruments is designed for mental health assessment in the general population. These include the Hospital Anxiety and Depression Scale (HADS), the Patient Health Questionnaire-9 (PHQ-9), the Post-Traumatic Growth Inventory, and the Beck Depression Inventory (BDI). Secondly, specific mental health assessment instruments were employed for individuals living with HIV, including the Revised Illness Perception Questionnaire – HIV (IPQ-R-HIV), the HIV/AIDS Stress Scale, the HIV Distress and Coping Questionnaire, and Steward's HIV Stigma Scale.

The objective of the qualitative studies was to gain insight into the subjective experiences of men who have sex with men (MSM) diagnosed with HIV across various domains of life. The data collection instruments included semi-structured interviews, text messages, and in-depth interviews.

2. Thematic analysis of the selected articles

A qualitative synthesis was conducted, encompassing the principal themes addressed by the selected research, which are illustrated in Figure 3. Table 2, in contrast, delineates the definition of the topics and the articles that each of them encompasses.

Figure 3 Qualitative synthesis topics

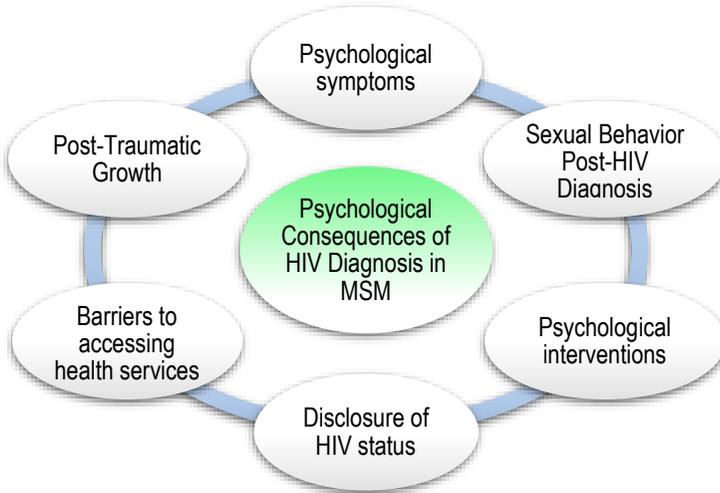


Table 2 Identification of topics associated with each article

Topic	Definition of the topic	Articles that contribute to the topic
Psychological symptoms	This topic includes all research results that considered measurements and relationships between mental disorders, symptomatology, and/or other related constructs in MSM recently diagnosed with HIV. This topic is made up exclusively of research carried out with the Chinese population.	1,11,12,13,14,18,22,24,27
Changes in sexual behavior post-diagnosis	This topic includes all research-reported outcomes concerning behavioral changes in the sexual repertoire of MSM newly diagnosed with HIV.	5,7,8,21,25,26
Psychological Interventions	In this topic are the main results of research where psychological interventions were carried out to reduce symptoms associated with mental health in MSM recently diagnosed with HIV.	3,10,15
Disclosure of HIV status	This topic considers the results of research related to the disclosure of HIV diagnosis in newly diagnosed MSM.	16,19,23
Barriers to accessing health services or self-care	This topic includes results that explain the barriers encountered for MSM newly diagnosed with HIV to access health services or self-care	2,4,6,17
Post-Traumatic Growth	This topic includes research results that mention positive changes in MSM recently diagnosed with HIV, understanding that this diagnosis, as a traumatic event, can eventually change the direction of life towards positive behaviors. This theme appears in two articles by Chinese population.	9,20

2. 1. Psychological symptoms

All studies have yielded evidence of the presence of anxious and depressive

symptoms. For example, Li et al. (2015c) found that two-thirds of participants exhibited symptoms of depression and anxiety. Tao et al. (2017a) observed a correlation between HIV-associated stigma and depression, with internalized stigma exhibiting the strongest independent association with depression. Tao et al. (2017b) demonstrated that both depression and anxiety were associated with an earlier onset of antiretroviral therapy (ART). Conversely, Tao et al. (2017c) indicated that depression and anxiety are risk factors for adherence to antiretroviral therapy (ART).

As Li et al. (2017a) note, suicidal ideation was a common occurrence following diagnosis. However, as participants gained a deeper comprehension of their prognosis and treatment, they reported a reduction in suicidal thoughts.

Mo et al. (2018) posit that cognitive and emotional representations of HIV are significant factors to consider in the context of mental health, both in the context of depression and suicide. The perception that HIV is uncontrollable within the body, chronic, and has significant health consequences may give rise to feelings of despair. Conversely, beliefs in disease control and a comprehensive understanding of the condition can mitigate the perception of fear.

In addition, the findings indicated a direct correlation between HIV-related stigma and MSM-related stigma and experiences of intimate partner violence among newly diagnosed MSM in China (Wang et al., 2020).

2.2. Changes in sexual behavior after HIV diagnosis

Vallabhaneni et al. (2013) demonstrated that within a few months of receiving a diagnosis of HIV, men who have sex with men (MSM) in Southern California adopted seroadaptive practices, particularly seropositioning, whereby the individual with HIV assumes a non-penetrative position during unprotected sexual intercourse. This resulted in a sustained reduction in sexual activity, which was associated with a lower risk of HIV transmission. In a similar vein, Gilbert et al. (2018) discovered that the majority of individuals abstained from sexual intercourse immediately following their diagnosis. This finding aligns with the results reported by Li et al. (2017c) in China, who observed that the majority of participants ceased engaging in unprotected anal intercourse immediately after receiving their diagnosis. In contrast, Wang et al. (2017b) reported that HIV-positive MSM remained sexually active following a diagnosis.

2.3. Psychological interventions

In their 2018 study, Liu and colleagues found that peer counseling had a more pronounced effect on reducing unprotected anal intercourse with men, illicit drug use, and unprotected vaginal intercourse with women over time compared to a standard intervention. In contrast, Yang et al. (2018), also in China, developed a brief, three-session cognitive behavioral therapy (CBT) that was culturally adapted for integration into primary care. This approach was found to significantly reduce HIV-related distress, depression, and adaptation problems, as well as improve resilience and perceived social support.

Conversely, Bayona et al. (2017) in Peru discovered that a two-way mobile health intervention, comprising text messaging, Facebook, and WhatsApp, furnished

support to facilitate care for MSM recently diagnosed with HIV, while also engendering positive mental and emotional states.

2.4. Disclosure of the serological status

In a study conducted in the USA by Abler et al. (2015), it was found that disclosing one's HIV status to sexual partners facilitates both joint decision-making and the implementation of safe sexual behaviors. However, the process of disclosure can be affected by the presence of depressive symptoms. Consequently, depressive symptoms were inversely correlated with the self-efficacy of disclosure. Conversely, Crosby et al. (2017) also observed in a US population of 125 young African Americans that 70.4% had disclosed their HIV status to their first male sexual partner after diagnosis. Of these, nine (9.1%) indicated that they had not used condoms during subsequent sexual intercourse with that partner. Among the men who did not disclose their new HIV status, 27% reported that they did not use condoms for subsequent sexual intercourse.

Conversely, Bilardi et al. (2019) indicate that the pervasive stigma surrounding HIV can have a profound impact on the acceptance and willingness of MSM to disclose their HIV status to others, subsequently influencing the levels of professional and social support they receive.

2.5. Barriers to accessing health services and self-care

In their 2015 study, Li and colleagues identified several key barriers to the utilization of HIV/AIDS-related services. These included the poor quality of services, mental and emotional health issues, a lack of trust and understanding of the services offered, low economic status, the absence of health insurance, high medical fees, the denial of access to services, and restrictive care policies.

2.6. Post-Traumatic Growth

In a study conducted by Lau et al. (2018), it was discovered that individuals who have recently been diagnosed with HIV and who identify as men who have sex with men (MSM) are at an elevated risk for developing mental health issues. However, it was also found that these individuals can potentially experience post-traumatic growth. The results indicate that interventions that promote post-traumatic growth (PTG) are justified and should alter the perception of the disease, particularly with regard to the emotional representation.

As Yu et al. (2027) observe, the experience of HIV as a life-transforming event can yield both negative and positive outcomes in young Chinese men. The findings of the study indicated that ascribing a negative connotation to adversity was associated with depression and post-traumatic stress disorder (PTSD), whereas ascribing a positive connotation to adversity was associated with cognitive processing therapy (CPT). This finding suggests that the negative and positive outcomes of a HIV diagnosis, as a traumatic experience, are affected by the individual's ability to give a negative or positive sense to adversity, respectively. This is mediated by resilience.

4. Discussion

The global prevalence of HIV/AIDS persists as a significant public health concern (UNAIDS, 2023). In Latin America, there has been a 5% increase in new diagnoses, with a considerable increase in countries such as Chile, specifically among young men (ISP, 2024). Adapting to living with HIV can result in mental health challenges, as evidenced by various studies (Nakimuli-Mpungu et al., 2020; Yu et al., 2022; Chan & Mak, 2019).

The production of knowledge regarding the psychological consequences of HIV diagnosis in MSM over the past decade has been limited, with a notable increase in literature in 2017. However, subsequent years have seen a decline in research activity until 2022, which may be partially attributed to the impact of the global pandemic caused by the SARS-CoV-2 virus. As Chenneville et al. (2020) report, academic institutions ceased or modified their HIV-related activities in pursuit of research related to the novel coronavirus, which has had short- and medium-term consequences, for example, in the lack of funding for psychosocial research projects.

The prevalence of depression, anxiety, and suicidal ideation tends to diminish with the provision of accurate information regarding the disease and its prognosis. It is imperative to disseminate accurate information and address the misconceptions surrounding HIV in order to enhance mental health outcomes.

This systematic review illuminates the changes in sexual behavior experienced by newly diagnosed men who have sex with men (MSM). It is important to create opportunities to discuss sexuality, as this can facilitate dialogue about fears related to sexual practices and encourage adherence to condom use. The newly diagnosed MSM population represents a particularly vulnerable group in terms of prevention efforts, as recent studies have estimated that between 30% and 60% of this group has recently contracted the virus (Chow et al., 2014; Sane et al., 2014). This high prevalence of infection is associated with a significant risk of transmission. In Chile, there is evidence that men who have sex with men (MSM) engage in anal sex without a condom at a high prevalence, thereby increasing the risk of human immunodeficiency virus (HIV) transmission (Stuardo et al., 2020). This finding is consistent with the results of the research conducted by Lacefield et al. (2015) in the United States, which demonstrated that this practice is not limited to a specific locale.

The findings of this review highlight the necessity for the development and implementation of novel strategies that facilitate the adoption of satisfactory and safe sexual practices among MSM. It is therefore evident that the area of sex education should be incorporated into public policies related to sexual health in Chile.

Mental health is a crucial aspect for both self-care and the implementation of health promotion strategies to prevent the transmission of the virus to others, as emphasized by Peltzer et al. (2015). They underscore the significance of integrating mental health management into HIV treatment. Psychological interventions have demonstrated the efficacy of psychosocial strategies, such as peer groups and the use of technology, including text messages, in addressing the mental health needs of PLHIV, particularly in promoting adherence to antiretroviral treatment (Costa-

Cordella et al., 2022). Conversely, interventions that facilitate post-traumatic growth or targeted psychological treatments, such as crisis interventions, enable expedient responses to psychological symptoms such as depression, anxiety, and suicidal ideation.

There is evidence to suggest that interventions targeting HIV-related stigma following diagnosis can reduce depressive symptomatology and improve mental health in the long term (Tao et al., 2017). This is particularly relevant given that internalized stigma is a significant contributor to depression.

This review provides a comprehensive overview of mental health in MSM who have recently been diagnosed with HIV; however, it is not without limitations. Firstly, it should be noted that this review included only studies published in English. Consequently, research published in other languages may have been overlooked. Secondly, this review is limited in its scope to men who have sex with men (MSM), a group with a high prevalence of HIV. However, it should be noted that the characteristics of this group may not be representative of women or other demographic groups.

The findings indicate a need for further research in Chile on the mental health issues that may arise following an HIV diagnosis in MSM. This is particularly important given the high rates of depression in the country and the limited number of intervention strategies for mental health included in the protocols for PLHIV.

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