REVIEW ARTICLE

# The social support needs of older adults within the context of sexually transmitted infections or diseases (STI/STD): A scoping review

Mark Stephan Felix[1], Patreeya Kitcharoen[1], Thi Ngoc Phuc Le[2], Haihu Guo[1]

[1]Department of Society and Health, Faculty of Social Sciences and Humanities, Mahidol University, Nakhon Pathom, Thailand.
[2]Department of Development Anthropology, Faculty of Anthropology, University of Social Sciences and Humanities - Vietnam National University 10-12 Đ. Đinh Tiên Hoàng, Bến Nghé, Quận 1, Thành Phố, Ho Chi Minh City, Vietnam

**Corresponding Author:** Haihu Guo **Email:** haihuguo@me.com

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## ABSTRACT

Sexual health among older adults is often overlooked despite evidence that they remain sexually active and at risk for STI/STD infections. The increasing prevalence of these infections in aging populations highlights the importance of understanding their social support needs, especially in mitigating stigma and discrimination. This scoping review aimed at mapping out the relevant extant literature on the subject of the social support needs of older adults who had contracted STI/STD within the context of stigma and discrimination, identified research gaps based on the extracted data and suggested directions for future research. Guided by the PRISMA-ScR guidelines, searches in five international English Language databases including PubMed, SAGE Journals, ScienceDirect, Taylor & Francis Online, and Wiley Online Library yielded 193,874 initial results; four rounds of exclusion guided by the PRISMA-ScR guidelines produced six finalized articles. The analysis of the extracted data identified four main gaps in the extant literature: current research focuses only on HIV; methodological gaps; the roles of family/culture/ethnicity in providing social support; and challenges in maintaining social/spiritual/religious connections. Future research needs to utilize more diverse research methods, include assessments of preparedness and evaluation of social support needs for sexually active older adults; expand research from cultural, ethnic and sociodemographic perspectives; and fourth, augmentation of research in the area of STI/STD among older adults to include gonorrhea, syphilis, chlamydia and Hepatitis C. The findings highlight the critical need for expanded research into the broader spectrum of STI/STD infections among older adults beyond HIV.

**Keywords:**
HIV; older adult; sexually transmissible infections/diseases; social support needs; stigma and discrimination.

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# INTRODUCTION

The sexuality of older adults remains a relatively untouched and underestimated area of study. Further academic inquiry into the subject of the sexuality of older adults is necessary due to the growing aging population and sexuality being a lifelong human phenomenon.[1] Older adults are capable of sexual function and performance[2-8] and continue to engage in sexual activities despite societal, familial and religious sanctions.[1, 9-11] This adds to the potential rise of sexually transmitted infections (STIs)/sexually transmitted diseases (STDs) contraction among older adults,[2, 4-7,12-18] and the stigma and discrimination associated with STIs/STDs placing older adults in vulnerable/marginalized positions within society.[3]

The subject of older adults, social support and stigma has been studied in other health contexts such as dementia, mental disorders, depression and epilepsy.[19-26] However, a preliminary check by the authors indicated no scoping reviews into the subject of the social support needs of older adults who contract an STI/STD, stigma and discrimination had yet been conducted – despite STI/STD being on the rise among the older adult population.[11, 18, 27-30] Additionally, stigma and discrimination have the following impacts on older adults: status loss, failure to capitalize on healthcare opportunities, being subject to ridicule[31], separation from other members of society, stereotyping, labelling,[32] intolerance and disregard[33]. When intersected with other socioeconomic and sociocultural elements stigma and discrimination can have adverse effects on individuals.[34] To manage these impacts, social support is a necessity as it provides social contact, physical contact and communication.[35]

Being able to depend on social support in times of poor health, including infection with an STI/STD is necessary to the continued wellbeing of older adults. This need is necessitated in the present time period when family sizes are shrinking due to lower birth rates, increased life expectancy and advances in medical technology to promote longevity.[36-38] Based on these factors and arguments, the question put forward by this scoping review is: "What are the social support needs of older adults who experience stigma and discrimination due to an STI/STD infection"?

This scoping review will map out the relevant literature on the subject of older adults and their experiences of stigma and discrimination due to contracting an STI/SDT to identify the social support needs that are specific to this age group. The scoping review will then move on to identify gaps in the research and provide suggestions for directions of future research. These directions for future research are relevant to stakeholders in the fields of human sexuality, the practice of medicine, social work and other related areas.

# METHODS

The works of Arksey and O'Malley,[43] Pham et al.[44] and Munn et al.[45] guided the methodology of this scoping review. Also, the PRISMA-ScR guidelines by Tricco et al.[46] were used to structure and report this scoping review.

### *Protocol and Registration*

No protocol was registered for this scoping review. As per PROSPERO's guidelines, scoping reviews are not eligible for registration. The authors however, ensured the research protocol was in place prior to beginning the study.

### *Research Focus - Scope of Review and Definitions*

This scoping review focuses on the social support needs of older adults in the context of experiencing stigma and

discrimination due to contracting an STI/STD. Older adults (P = population) refer to persons of all genders and sexualities with a reported mean age in the research above 55.[39] The concept (C) of social support is defined as social contact, physical contact and communication.[35] The context (C) of this study is stigma (defined as labelling, negative stereotyping, linguistic separation, power asymmetry)[40], intolerance and disregard[33] and discrimination (defined as unfair treatment and withholding of benefits)[41-42] due to infection with an STI/STD (i.e. human immunodeficiency virus (HIV), chlamydia, syphilis and gonorrhea).

***Eligibility Criteria***

The scoping review did not limit the literature to any one specific geographic region and a global perspective was taken to include all relevant academic literature. The timeframe for this scoping review was a period of eleven years from 2013 to 2024. This timeframe allowed the researchers to glean the most relevant academic information on the topic from this time period. The final date for the database searches was 17th August 2024. The language of publication was limited to the English Language to facilitate searches on international databases; and English is the common language among the researchers. Empirical and research studies were included. Grey literature such as editorials, letters to the editor and opinion pieces were excluded.

***Information Sources***

The scoping review was conducted using the PubMed, SAGE Journals, ScienceDirect, Taylor & Francis Online and Wiley Online Library databases. These databases were chosen as their contents included health-related academic works as well as social sciences related works on the subject of STI/STD, older adults and stigma/discrimination.

***Search Strategy***

Keywords to conduct the database searches were selected specifically to meet the rigors of a scoping review. These keywords included older adult, elderly, senior citizen, aging population, stigma and discrimination. As the prevalence of different STIs/STDs (e.g. HIV, chlamydia, gonorrhea and syphilis) among older adults varies by year and geographic region, this research used the keywords sexually transmitted infections, STI, sexually transmitted disease, STD, HIV, chlamydia, syphilis and gonorrhea. Additionally, as social support was the concept (C) studied, the keywords social support, social contact, physical contact and communication were also used. Table 1 illustrates the search strategy.

**Table 1.** Search strategy

| | |
|---|---|
| **Database** | PubMed, SAGE Journals, ScienceDirect, Taylor & Francis Online and Wiley Online Library databases |
| **Other sources** | None |
| **Key searched terms** | <older adult>, <elderly>, <senior citizen>, <aging population>, <stigma> <discrimination>, <sexually transmitted infections>, <STI>, <sexually transmitted disease>, <STD>, <HIV>, <chlamydia>, <syphilis> <gonorrhea>, <social support>, <social contact>, <physical contact> and <communication> |
| **Language** | English |
| **Location** | Globally |

| | |
|---|---|
| **Duration** | 2013 - 2024 |
| **Types of study** | Empirical studies |
| **Type of publication** | Research articles |
| **Exclusion criteria** | Editorials, opinion pieces, letters to the editor. |

***Selection of Sources of Evidence***

The selection of the sources of evidence was based on four rounds of exclusion. These four rounds of exclusion were exclusion based on duplication, exclusion based on title, exclusion based on abstract and exclusion based on the assessment of the content of the article.

***Data Charting Process***

To decrease bias, each author read the finalized articles and extracted the relevant data independently. Data extraction was guided by charting tables. The charting tables extracted data pertaining to the subject matter of the article, methodology, population, country, type of STI/STD, type of stigma/discrimination and social support needs. Additionally, the charting tables included gaps identified in the analysis of the article and the directions for future research.

***Synthesis of Results***

Each author entered the extracted data into the designated cells of their individual charting tables. These extracted data were then collated into two main charting tables by the lead author. Repetitive data were removed. The lead author then summarized and synthesized the data. The data in the main charting tables were then scrutinized by all the authors and a discussion regarding discrepancies, relevance of data and strength of synthesis was conducted using an online meeting platform. A finalized version of the charting table was agreed upon by all the authors prior to analysis.

# RESULTS

***Selection of Sources of Evidence***

The searches in the five databases yielded a total of 193,874 potential sources of evidence. The first round of exclusion based on duplication removed 15 articles, leaving 193,859 articles for assessment based on title. The second round of exclusion removed 193,808 articles based on the title of the article, leaving a total of 51 articles for the next round of selection. The third round of exclusion was based on abstract, and in this round of exclusion, 32 articles were excluded for not meeting the focus of the research, leaving a total of 19 articles for full content assessment. Among the reasons for the exclusion of these articles were that these resources were review articles, intervention tool assessments, mean age of participants/respondents being <55 years of age and the focus of the articles being populations other than older adults (i.e. nursing students). The fourth round of exclusion was based on a full content assessment and this round of exclusion removed 13 articles. Articles were removed based on a lack of fit with the focus of this scoping review (i.e. research protocols, focus of the article was on clinical practitioners or informal caregivers). A total of six articles were finalized for this study. Figure 1, the PRISMA-ScR flow chart, illustrates the selection process of sources of evidence, showing the number of articles excluded at each stage and the final number of studies included in the review.

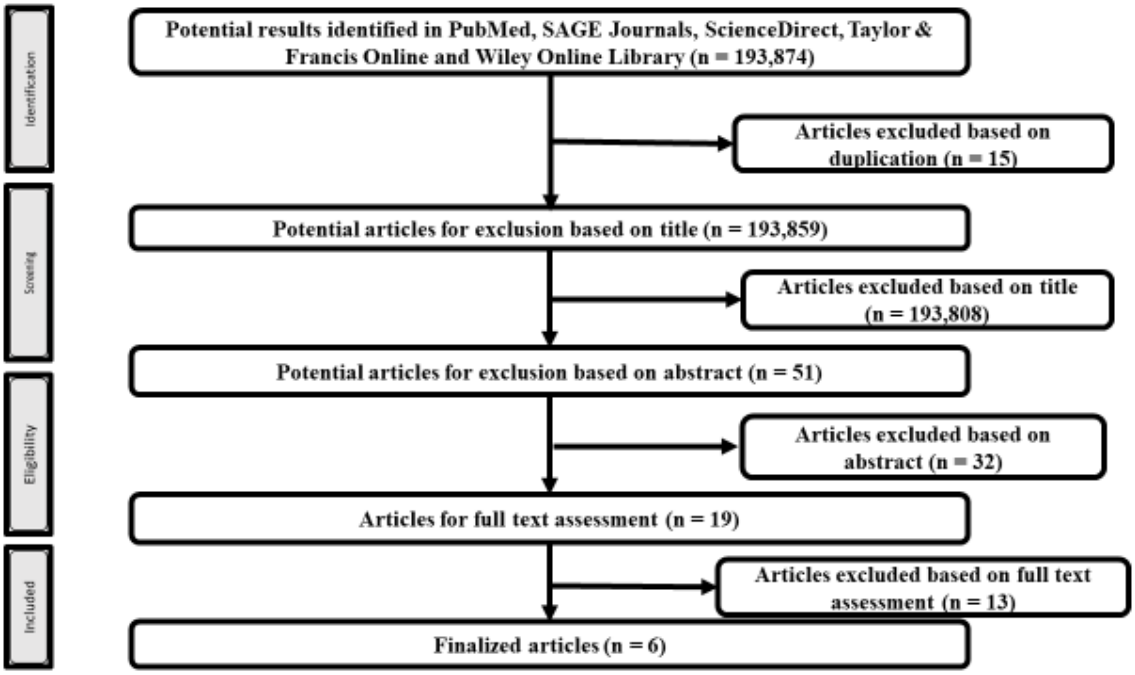


**Figure 1. PRIS**MA-ScR flow chart

***Characteristics of Sources of Evidence***

The finalized articles were from studies conducted in China (n=1), Ukraine (n = 1), Uganda (n = 1) and the USA (n = 3). These finalized articles dealt with the subjects of the examination of specific challenges and coping with recent diagnosis of HIV among older persons[47]; the examination of the tenets of social support and the effects of social support on the mental, social and physical well-being of older persons living with HIV (PLWHIV)[48]; the intersectionality of stigma across groups of older PLWHIV and its relation to depression, social losses and isolation[49]; the measurement, disclosure and changing manifestation of HIV-related stigma among older people and highlighting the need for tailored approaches to address stigma and provide insights for stakeholders in understanding context-specific challenges[50]; the exploration of the lived experience, stigma and disclosure of older Black men who have sex with men (MSM) living with HIV, stigma and the use of spirituality[51]; and the description of the severity of cognitive impairments due to perceived discrimination among older adult PLWHIV[52]. Research methodologies included qualitative methods, longitudinal mixed methods, the transcendental phenomenology methodological approach and cross-sectional surveys. Sampling methods included purposive sampling, community-based sampling, venue-based sampling, snowball technique, convenience sampling and cohort studies. Research tools utilized were in-depth interviews, semi-structured interview guidelines, life histories, oral diaries and surveys. Data analysis tools used included the transactional model of stress and coping, coding, thematic analysis, inductive thematic analysis, STATA 11, NVIVO 8, Microsoft Excel, Microsoft Word and modified van Kaam method analysis. All the finalized articles focused on HIV as the STI/STD; no other STIs/STDs were reported as co-infections.[47-52]

***Stigma and Discrimination***

The types of stigma experienced by older adults in the finalized articles included anticipated stigma, self-inflicted stigma, associative stigma, enacted stigma, experiential stigma, perceived stigma, social stigma and internalized stigma. These experiences of stigma led to self-isolation, depression, feelings of guilt, unhealthy lifestyle choices, fear of rejection from romantic/social connections, social exclusion, selective disclosure of HIV status for fear of confidentiality breaches and social distancing. Discrimination took the forms of fear of discrimination in the workplace; rejection by romantic partners; misconceptions regarding PLWHIV; the double discrimination of ageism and being PLWHIV; internalized, religious, institutional and social discrimination; unfavorable treatment, gossip and being refused entry into social spaces; and discrimination in receiving medical treatment.[47-52]

***Sources and Types of Social Support***

Sources of social support were a social network of family/friends and/or healthcare providers; other older adult PLWHIV, HIV support groups; peers, members of other stigmatized groups; members of the larger community and a personal belief in spirituality. The social support needs related to social contact included the need for more social contact with family members, interventions to address the reduction of social contact due to STI/STD diagnosis and maintenance of social networks with the wider community. The loss of social contact due to the death of peers or family members caused isolation for older adults. Communication needs included being able to disclose HIV status in a supportive environment, being able to speak about HIV diagnosis in a calm manner, the need to be able to communicate with other HIV+ older adults, the need for more communication with and within social support groups and being able to communicate effectively with medical professionals .[47-52]

The identified physical social support needs included the need for physical contact without judgement and physical contact/touch that was not uncomfortable or a reminder of HIV status. Other social support needs identified included the need to learn more about living with HIV with the help and encouragement of family members, the need for social connectedness to address issues centered around practical needs, more social support from medical professionals, the social support need for counseling interventions, and the emotional support need to encourage healthy self-coping mechanisms. Older adult heterosexual men required more social support than women. Other needs included customized social support, social support for depression management, financial support, peer support for other older adults and the use of spirituality.[47-52]

***Synthesis of Results***

HIV is the only STI/STD found in the finalized articles. This is indicative of the focus of research to date on the subject of STI/STD in this population. This oversight could possibly lead to further health complications for the sexually active older adults as well as medical professionals. The finalized articles also suggest a lack of research on the issue of social support needs, older adults and STI/STD in South America, Australia, Southeast Asia, South Asia, the Middle East, Africa, and Europe.

The instances of stigma found in the finalized article indicate the need for further preparation to deal with stigma as the global population ages. The types of discrimination indicate the need for a review of medical policies to ensure access to health services as well as stakeholder interventions to decrease isolation and increase engagement of HIV positive older adults within society. The three aspects of

social support needs are interconnected. This interconnectedness indicates the need for connection, support and empathy but does not emphasize how older adults who contract an STI/STD may effectively reach out through a social mechanism to gain social support. The finalized articles indicate that more practical approaches to address these social support needs are necessary and vital as the global population ages. All extracted data can be seen in Table 2 – Characteristics of Sources of Evidence and Table 3 – Summary of Stigma and Discrimination, Social Support, Gaps, and Future Research Directions in the Context of Older Adults with STIs/STDs.

**Table 2.** Characteristics of Sources of Evidence

| No | Reference | Subject Matter | Methodology, Population/ Sample | Country | Type of STI/STD |
|---|---|---|---|---|---|
| **1.** | Allen A, Zaviryukha I, Kiriazova T, Shenoi S, Rozanova J. The lived experience of a newly diagnosed older person with HIV in Ukraine. Qual Health Res. 2021;31(12):2290–303. doi:10.1177/10497323211026914 | Examination of specific challenges and coping with recent diagnosis of HIV among older persons with HIV in Ukraine. | **Methodology:** Qualitative. **Population:** Older persons diagnosed with HIV in last six months. **Sampling:** Purposive sampling (n=30), mean age 58, via Kyiv AIDS Center. **Data collection:** In-depth interviews. **Research tool:** Interview guide. **Data analysis tool:** Transactional model of Stress and Coping, coding and thematic analysis. | Ukraine | HIV |
| **2.** | Gervolino SC, Krause KD, Halkitis PN. The role of social support networks in a sample of older adults living with HIV: The GOLD studies. AIDS Care. 2024;36(9):1–8. doi:10.1080/09540121.2024.2312877 | Examination of the tenets of social support and the effects of social support on mental, social and physical well-being. | **Methodology:** Qualitative **Population:** Older person living with HIV (n=40), mean age of 57. **Sampling:** Community-based sampling, venue-based sampling and snowball technique. **Data collection:** In-depth interviews. **Research tool:** Interview guideline. **Data analysis tool:** Coding and thematic analysis utilizing trained research staff, Microsoft Excel and Microsoft Word. | The USA | HIV |
| **3.** | Johnson Shen M, Freeman R, Karpiak S, Brennan-Ing M, Seidel L, Siegler EL. The intersectionality of stigmas among key populations of older adults affected by HIV: A thematic analysis. Clin Gerontol. 2019;42(2):137–49. doi:10.1080/07317115.2018.1456500 | The intersectionality of stigma across groups of older persons with HIV and its relation to depression, social losses and isolation. | **Methodology:** Qualitative. **Population:** Gay, bisexual and heterosexual men and women, English and Spanish speakers. **Sampling:** Purposive sampling (n=32), mean age 61. **Data collection:** Face-to-face focus groups. **Research tool:** Semi-structured interview guide. **Data analysis tool:** Inductive thematic analysis and coding. | The USA | HIV |
| **4.** | Kuteesa MO, Wright S, Seeley J, Mugisha J, Kinyanda E, Kakembo F, et al. Experiences of HIV-related stigma among HIV-positive older persons in Uganda-a mixed methods analysis. SAHARA-J: J Soc Aspects HIV/AIDS. 2014;11(1):126–37. | Measurement, disclosure and changing manifestation of HIV-related stigma among older people, highlighting the need for tailored approaches to address stigma | **Methodology:** Longitudinal mixed methods. **Population:** **Sampling:** Cohort studies, random sampling (n=510) of HIV positive and negative persons, mean age of diverse HIV positive persons for quantitative section was 59, qualitative section was 65. Total HIV+ quantitative responses were (*n* = 183) and total qualitative | Uganda | HIV |

| No | Reference | Subject Matter | Methodology, Population/ Sample | Country | Type of STI/STD |
|---|---|---|---|---|---|
| | | and provide insights for service providers and researchers in understanding the context-specific challenges. | HIV+ respondents was ($n$ = 25) from ethnic rural and per-urban populations. **Data collection:** Survey and open-ended semi-structured interviews. **Research tool:** Structured questionnaires, life histories, oral diaries, semi-structured extended conversation. **Data analysis tool:** STATA 11 and NVIVO 8 for thematic analysis. | | |
| **5.** | Miller WL Jr. Experiences of stigma and spirituality of older black men living with HIV. J Soc Serv Res. 2020;46(3):427–38. doi:10.1080/01488376.2019.1582451 | Exploration of the lived experience, stigma and disclosure of older Black men who have sex with men living with HIV, stigma and the use of spirituality. | **Methodology:** Transcendental phenomenological approach. **Population:** Older Black men who have sex with men living with HIV **Sampling:** Purposive sampling (n=10), mean age of 60. **Data collection:** Semi-structured individual in-depth interviews. **Research tool:** Interview guide. **Data analysis tool:** Modified van Kaam method analysis. | The USA | HIV |
| **6.** | Zhu Z, Hu Y, Xing W, Guo M, Wu B. Perceived discrimination and cognitive function in middle-aged and older adults living with HIV in China. AIDS Care. 2019;31(9):1061–8. doi:10.1080/09540121.2019.1601674 | Description of the severity of cognitive impairments and perceived discrimination and factors associated with self-reported cognitive ability among older people living with HIV (PLWH). | **Methodology:** Cross-sectional survey. **Population:** Older adults (n=324) with a mean age of 56. **Sampling:** Convenience sampling from HIV designated hospitals in China. **Data collection:** Survey. **Research tool:** Survey. **Data analysis tool:** Expanded Everyday Discrimination Scale, Patient Health Questionnaire-2 (Chinese version), WHOQOL-HIV BREF, AIDS Health Assessment Questionnaire (AIDS-HAQ). | China | HIV |

**Table 3.** Summary of Stigma and Discrimination, Social Support, Gaps, and Future Research Directions in the Context of Older Adults with STIs/STDs

| No | Reference | Types of stigma and/or discrimination | Source of social support | Social support need (social contact) | Social support need (communication) | Social support (physical contact) | Other identified social support needs | Gap | Future research directions |
|---|---|---|---|---|---|---|---|---|---|
| **1.** | Allen A, Zaviryukha I, Kiriazova T, Shenoi S, Rozanova J. The lived experience of a newly diagnosed older person with HIV in Ukraine. Qual Health Res. 2021;31(12):2290–303. doi:10.1177/1049732321 1026914 | Self-inflicted stigma, anticipated stigma, stigma associated with being in high-risk group<br><br>Workplace discriminatio n.<br><br>Selective disclosure of HIV status and confidentiali ty. | Small circle of family, friends and/or health care providers. | More time spent with children and grandchildren.<br><br>The results suggest that interventions aimed at promoting the use of social support and focusing on the opportunity for growth may be particularly useful. | Disclosing HIV status and receiving verbal support. | Physical contact was limited during the COVID-19 pandemic.<br><br>The research recognizes the need for social support | Learning about HIV through the encouragement of family members.<br><br>Social support from health care professionals. | Comparison with younger groups of persons living with HIV.<br><br>The role of family and culture in coping strategies.<br><br>Sample is site specific and not inclusive of HIV+ persons. | Impact of gender and sexual identities as well as comparisons with younger groups.<br><br>Cultural aspects of social support needs.<br><br>The role of families and other social support networks in providing social support.<br><br>Inclusion of respondents based on financial/ transportation constraints. |

| No | Reference | Types of stigma and/or discrimination | Source of social support | Social support need (social contact) | Social support need (communication) | Social support (physical contact) | Other identified social support needs | Gap | Future research directions |
|---|---|---|---|---|---|---|---|---|---|
| **2.** | Gervolino SC, Krause KD, Halkitis PN. The role of social support networks in a sample of older adults living with HIV: The GOLD studies. AIDS Care. 2024;36(9):1–8. doi:10.1080/09540121.2024.2312877 | Rejection by romantic partner.<br><br>Misconceptions regarding HIV lead to strains in relationships. | Friends of similar age who are HIV+, HIV support groups and family (children and especially grandchildren). | Loss of social contact and social networks due to isolation.<br><br>Loss of social networks due to lack of persons to organize social gatherings. | Being able to communicate with other people who are HIV+ of the same age group. | | Social connections to deal with housing, treatment, education and social connection needs. | Older adults being overlooked in social support interventions.<br><br>Necessity of social contacts and social networks for older adults dealing with stigma and discrimination. | Raising the visibility of older adults and their social support needs.<br><br>Challenges and barriers to creating and sustaining social contacts and social networks. |
| **3.** | Johnson Shen M, Freeman R, Karpiak S, Brennan-Ing M, Seidel L, Siegler EL. The intersectionality of stigmas among key populations of older adults affected by HIV: A thematic analysis. Clin Gerontol. 2019;42(2):137–49. doi:10.1080/07317115.2018.1456500 | Experienced stigma, anticipated stigma, associative stigma, enacted stigma.<br><br>Isolation and depression.<br><br>Selective disclosure of HIV status.<br><br>Religious, institutional | Peers, stigmatized groups. | Decreased overall social contact due to social isolation and disconnection. | Lack of communication within social support groups, adding to isolation and social exclusion. | Loss of physical resources and discrimination.<br><br>Need for physical contact. | Lack of overall social support than younger age groups.<br><br>Heterosexual men may be in need most of social support.<br><br>Women reported the least deleterious effects of stigma.<br><br>Social support to manage | Underestimation of the actual prevalence of experiences of stigma; question arises of attribution of stigma based on either gender or HIV status.<br><br>The role of ethnicity and culture in the experiences of stigma and/or discrimination. | Emphasis on research developing targeted interventions to allow specific affected populations to seek social support.<br><br>Customizing intervention-based research to address the specific challenges and circumstances. |

| No | Reference | Types of stigma and/or discrimination | Source of social support | Social support need (social contact) | Social support need (communication) | Social support (physical contact) | Other identified social support needs | Gap | Future research directions |
|---|---|---|---|---|---|---|---|---|---|
| | | and social discrimination. | | | | | depression due to HIV infection. | Not all experiences of stigma and discrimination captured due to small research sample. | Gender, age, ethnicity and culture based research on interventions and social support needs in various fields of research.<br><br>Expansion of research focused on evaluation of and accessibility to social support.<br><br>Research the role of social support and networks in reducing stigma and discrimination. |
| **4.** | Kuteesa MO, Wright S, Seeley J, Mugisha J, Kinyanda E, Kakembo F, et al. Experiences of HIV-related stigma | Experienced stigma, perceived stigma, social | Social network of family, health professionals | Social support provided by children. | | Lack of physical contact due to apparent signs of AIDS. | Being a source of social support for other elderly who are HIV+. | Lack of generalizability of findings due to small-sized | Quantitative studies for generalizability of findings couched in |

| No | Reference | Types of stigma and/or discrimination | Source of social support | Social support need (social contact) | Social support need (communication) | Social support (physical contact) | Other identified social support needs | Gap | Future research directions |
|---|---|---|---|---|---|---|---|---|---|
| | among HIV-positive older persons in Uganda-a mixed methods analysis. SAHARA-J: J Soc Aspects HIV/AIDS. 2014;11(1):126–37. | stigma, anticipated stigma, self-stigmatization and hiding HIV status.<br><br>Discrimination through unfavorable treatment and gossip. | and community. | Social connection with wider community. | | Physical contact that did not create feelings of discomfort. | Appreciation and need for financial support by elderly with HIV from community. | qualitative study.<br><br>Major differences in stigma and disclosure by respondents based on demographic characteristics.<br><br>Lack of exploring the specific reasons or motivations behind disclosure or non-disclosure; possible recall bias.<br><br>The study did not extensively explore other potential sources of disclosure. | socio-demographic research.<br><br>Exploration of the additional dimensions of socio-economics and disclosure to provide a more comprehensive understanding of the disclosure experiences.<br><br>The study of stigma in specific situations such as cultural and environmental contexts.<br><br>Research on tailored interventions for specific age groups affected by STI/STD and disclosure. |

| No | Reference | Types of stigma and/or discrimination | Source of social support | Social support need (social contact) | Social support need (communication) | Social support (physical contact) | Other identified social support needs | Gap | Future research directions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | The role of social support networks as other points of disclosure in reducing stigma and discrimination. |
| **5.** | Miller WL Jr. Experiences of stigma and spirituality of older black men living with HIV. J Soc Serv Res. 2020;46(3):427–38. doi:10.1080/01488376.2019.1582451 | Internalized stigma.<br><br>Social exclusion.<br><br>Discrimination in medical settings. | Spirituality | Giving back to loved ones and connecting more socially.<br><br>Social connections are a challenge to maintain. | Lack of communication with doctors or medical professionals, creating fear of death due to HIV infection. | | Use of spirituality as a resource and a personal means of support.<br><br>Giving of social support by elderly with HIV to other elderly with HIV. | Challenges in maintaining social connection within a religious or spiritual community.<br><br>Lack of information on communication and physical contact aspects of social support.<br><br>High level of subjectivity of phenomenology. | Culturally appropriate research of experiences of respondents to address stigma and discrimination.<br><br>Larger sample populations to create generalizability within larger geographic populations.<br><br>More diverse use of research methodologies. |

| No | Reference | Types of stigma and/or discrimination | Source of social support | Social support need (social contact) | Social support need (communication) | Social support (physical contact) | Other identified social support needs | Gap | Future research directions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Small sample sizes make generalizability difficult.<br><br>Gap in studies regarding role of medical professionals aligned with spirituality of HIV+ elderly. | Research on preparedness to address social support needs from a spiritual perspective. |
| **6.** | Zhu Z, Hu Y, Xing W, Guo M, Wu B. Perceived discrimination and cognitive function in middle-aged and older adults living with HIV in China. AIDS Care. 2019;31(9):1061–8. doi:10.1080/09540121.2019.1601674 | Double discrimination of HIV status and ageism, internalized discrimination. | Unspecified. | | | | Counseling interventions.<br><br>Emotional support needs to encourage healthy self-coping mechanisms. | Lack of generalizability of findings.<br><br>Self-reported outcomes may not be reliable, a necessity for more in-depth studies and researcher administered research tools. | Age as an added detrimental factor in the personal management of STI/STD and the social support needs to mitigate age as a detrimental factor. |

# DISCUSSION

***Summary of Evidence***

The social support needs identified in the finalized articles may be divided into four distinct categories. These categories are social contact, communication, physical contact and other identified social support needs. In the category of social contact, the identified social support needs include the need to spend more time with family (i.e. children and grandchildren) and other social networks (community groups). This is essential to manage the stigma and discrimination older adults face when they experience stigma and discrimination due to an STI/STD infection. In the category of communication, the identified social support needs include the ability to speak openly with medical professionals, the opportunity to communicate with other HIV+ older adults and the social support needs of being included in other social groups. The evidence found in the finalized articles for the category of physical contact includes having actual physical contact that was free from social judgement, physical resources and physical contact during periods of isolation. Finally, the fourth category of other identified social support needs includes the social support needs to connect with housing, educational and social connection needs. Additionally, this category includes the social support needs of managing depression, financial support, emotional support, peer-to-peer support and counselling interventions. These findings are in line with the past literature.[9-10, 16, 28.]

The first gap identified by the analysis of the extracted data is that the focus of the finalized articles is specifically on HIV and no other STIs/STDs. This is possibly indicative of the lack of urgency on the part of the academic/medical fields in conducting research on these other STIs/STDs within the context of the older adult or aging populations. Another plausible reason for this is that the members of the older adult/aging populations are stereotypically considered asexual[52] and therefore are not at risk of engaging in unsafe sexual practices[53].

The identified methodological gaps include the lack of comparison with other age groups in the older adult population who are living with HIV or other types of STI/STD (i.e. young elderly, middle elderly, old elderly); HIV+ persons are unable to access these sites; an underestimation of the actual prevalence of experiences of stigma and discrimination; and the uncertainty of attribution of stigma and discrimination based on gender or infection with an STI/STD. Small sample sizes make generalizability difficult. The lack of the use of sociodemographic characteristics in research methodology is also acknowledged as a gap in the research. Additionally, the use of data analysis tools such as transcendental phenomenology creates a high level of subjectivity on the subject, and the dependence of the methodology on self-reporting indicates recall bias and does not explore fully the specific reasons or motivations behind disclosure and/or non-disclosure. The extracted data indicates the methodological gap of not extensively exploring other potential sources of data (i.e. healthcare providers or community support workers). These gaps plausibly are caused by the focus on older adults with an STI/STD who form a hidden population – leading to smaller study samples; older adults being grouped together into a homogenous group without taking into consideration differences in socio-demographic characteristics; and the specific focus on HIV and not the wider issue of the older adult population and STI/STD infection and stigma/discrimination.

Other gaps identified include the lack of focus on the role of the family and

culture in coping strategies for STI/STD infection and stigma/discrimination; and the role of ethnicity and culture in the experience of stigma/discrimination. Finally, gaps were identified pertaining to the challenges in maintaining social/emotional connections within a religious/spiritual community; and the role of medical health, psychology and social work professionals aligned with spirituality and the stigma/discrimination caused by infection with an STI/STD.

Based on the gaps identified above, future research directions proposed by the authors are divided into the following four groupings: first, methodology; second, social support needs; third, cultural, ethnic and sociodemographic research; and fourth augmentation of research to include other STIs/STDs (gonorrhea, syphilis, chlamydia, Hepatitis C). Future directions of research that address the identified gaps in methodology should be inclusive of older adult research participants who are hard to reach due to their financial constraints as well as older adult populations that are varied based on sociodemographic considerations (e.g. gender, ethnicity, culture). Future research may also focus on customized intervention-based research to address specific social support challenges and circumstances faced by older adults who experience stigma and/or discrimination due to an STI/STD infection. Future research should focus on the social support needs for the disclosure of STIs/STDs and stigma/discrimination based on socio-economic, cultural and environmental contexts. Additionally, research to address the issue of stigma/discrimination experienced by older adults because of STI/STD infection should be carried out quantitatively to be generalizable and be tailored to meet the targeted social support intervention needs of different groups of older adults.

In terms of social support needs, future research may choose to focus on the evaluation and accessibility of social support, raising the visibility of older adults, the challenges and barriers to creating and sustaining social connections and social networks, and the role of social support networks in reducing stigma/discrimination targeted at older adults. Future research on social support may choose to address preparedness of medical and social work professionals to address the social support needs of older adults who experience stigma/discrimination from both counseling and spiritual perspectives. Future research may also be directed to address questions regarding age as a detrimental factor in the personal management of an STI/STD and the connected social support needs. Finally, in terms of the cultural, ethnic and sociodemographic perspectives, future research may consider studying the impact of gender and sexual identities, cultural aspects associated with stigma and discrimination due to an STI/STD, the role of families and other social networks, and culturally appropriate research approaches of social support needs of older adults who experience stigma/discrimination due to STI/STD infection. Future studies may also seek to explore the role of religious/spiritual communities in providing social support to this affected section of society. Finally, future research may choose to expand the present scope of research on STI/STD infection among older adults beyond HIV.

The limitations of the studies include a focus only on HIV as an STI/STD. Other limitations include a focus mainly on the USA, whereas HIV is a global concern and more research should be focused on developing nations. Another shortcoming of the finalized articles is that there is more focus on the qualitative approach. This indicates the necessity to include more quantitative research methods in future research considering the accelerated growth of the aging segment of the global population.

## LIMITATIONS

The first limitation noted by the authors is that the titles of articles on this subject were often unclear. To be more detailed, titles of articles that were potentially of use to this scoping review and did not reflect the concept of social support and were vague regarding the use of the term "older adult". The second limitation is the limitation of searching databases only with English Language keywords. Future scoping reviews may be inclusive of other international languages, i.e. Chinese. Finally, the limitation of type of STI/STD was recognized by the authors as no other STIs/STDs (i.e. chlamydia, syphilis) were found in the finalized articles.

## RECOMMENDATIONS

The growing older adult population, their continued sexual activity and societal reprobation surrounding the sexuality of older persons demand more academic efforts. Despite present efforts, more academic work is necessary to prepare all stakeholders for the advent of more health issues connected to the sexuality of older adults as all societies continue to age. The implications on theories within the discipline of sociology are particularly compelling. As societies age, present theoretical frameworks must adapt to take into consideration changes in how human sexuality is practiced by older adults as well as how it is interpreted by scholars. Additionally, practical implications for medical practitioners and social workers include the necessity for training, education and practical experience in managing the sexuality of older adults and not to assume asexuality on the part of this growing demographic. Future studies should include other STIs/STDs aside from HIV; expansion of types of methodologies used to study elderly persons, STI/STD and their social support needs; and research on this subject from cultural, ethnic, sociodemographic and social networks perspectives. These future studies would fall in line with the trend of the aging population, their social support needs and the continued health issues connected to older adults and their STI/STD risks.[54-58]

## AUTHOR CONTRIBUTIONS

Conceptualization was conducted by MSF. Methodology was developed by MSF, PC, TNPL, and HG. Database searches were performed by MSF, PC, TNPL, and HG. Data source selection was completed by MSF and HG. Data analysis was carried out by MSF, PC, TNPL, and HG. Writing, reviewing, and editing were undertaken by MSF and HG. All authors reviewed and approved the final manuscript.

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## CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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