An Evidence Review of Sexually Transmitted Infections in Humanitarian Settings

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ABSTRACT

Objectives: The overall aim of the review is to provide a knowledgeable assessment of the current health situation involving sexually transmitted infections among both refugees and internally displaced persons globally. This review aims to evaluate evidence on sexually transmitted infections and HIV/AIDS in the humanitarian setting.

Setting: Global north and global south countries with refugee or internally displaced populations.

Methods: Peer reviewed and systematic reviewed sources were searched for relevant papers detailing sexually transmitted infections from December 1, 1984 until the search date on February 19, 2017. Data from included studies were then extracted per the set inclusion criteria.

Results: Of 235 returned citations, 60 studies met the inclusion criteria. All were peer-reviewed and systematic reviews conducted with either refugees or internally displaced persons or within a humanitarian setting. Primary data collection was (33/60, 55%) which was most commonly employed, followed by systematic reviews (27/60, 45%). Most studies occurred in global south (39/60, 65%) in comparison to global north (9/60, 16%) and both (12/60, 20%). Five STIs were focused on in the selected studies with causative and behavioral factors being assessed. In comparison with the other STIs discussed, the evidence available for HIV/AIDS in a humanitarian setting was high (64%) and low for Syphilis (14%) Chlamydia (10%), Gonorrhea (8%)and Trichomonas (4%). The type of crisis was also identified, with man-made conflict and natural disaster. Most studies occurred in armed conflicts (9/11, 82%); only 18% (2/11) occurred in natural disasters.

Conclusion: In general, the studies reported high levels of awareness and knowledge of sexually transmitted diseases. This, however, does not always translate into behavior change. The humanitarian setting requires more attention to sexually transmitted infections due to disaster and displacement coupled with social, physical and psychological upheaval.

INTRODUCTION

BACKGROUND:

During a humanitarian response, traditional priorities tend to focus on provision of food, water, sanitation, shelter and basic health services. There has been little attention paid

to the role of sexually transmitted infections (STIs) and HIV/AIDS care in this context. Due to a long incubation period and concealed symptoms of HIV/AIDS and the slow progression of other STIs, it is not viewed as a matter of urgency or emergency. Factors such as poverty, social instability, conflicts and forced displacement further intensify the spread of STIs. Prior to 1994, no importance was given to STIs among refugees and IDPs. They are now an important cause of acute diseases and infertility and globally. The World Health Organization estimates that more than 340 million new cases of curable bacterial and protozoal STIs occur annually worldwide with the highest number of STIs occurring in the regions of sub-Saharan Africa and southern and Southeast Asia.[1] Both direct and indirect health care costs including social and psychological effects are immense especially in countries with poor allocation of resources. STIs and possible complications from them are among the top health concerns to visit a health care facility.

There are currently 21 million refugees worldwide of which 3 million are asylum seekers or internally displaced persons (IDPs).[58] It is hypothesized that refugees and IDPs would be at increased risk for STIs because of factors associated with disruption, displacement and disaster, including poor socioeconomic status resulting in vulnerability to sexual violence, abuse and lack of access to prevention and educational efforts. In addition, many areas where refugees originated or have lived have high baseline prevalence rates of STIs.[60] It is therefore important to identify any factors that may put forcibly displaced persons at risk of contracting STIs, and ensure proper identification and provision of treatment of these groups to prevent further susceptibility to complications and mortality. The need for a stronger scientific evidence base for

responses to communicable diseases has been identified by various public health actors.

OBJECTIVES:

The overall aim of the review is to provide a knowledgeable assessment of the current health situation involving sexually transmitted infections among both refugees and internally displaced persons globally. Both global north and global south populations and situations are examined in depth. Objectives of this review are:

- To present a thorough assessment of the current quality and depth of the available evidence-base for sexually transmitted infections among populations in a humanitarian crisis.
- To present a clear and authoritative overview of key thematic areas within the humanitarian public health field.
- To identify critical weaknesses in prevention and treatment and to identify where further research is required.
- To identify factors contributing to affected and displaced populations and those leading to sexually transmitted infections.
- To identify priority areas where further investment in research and evidence-base is most needed.

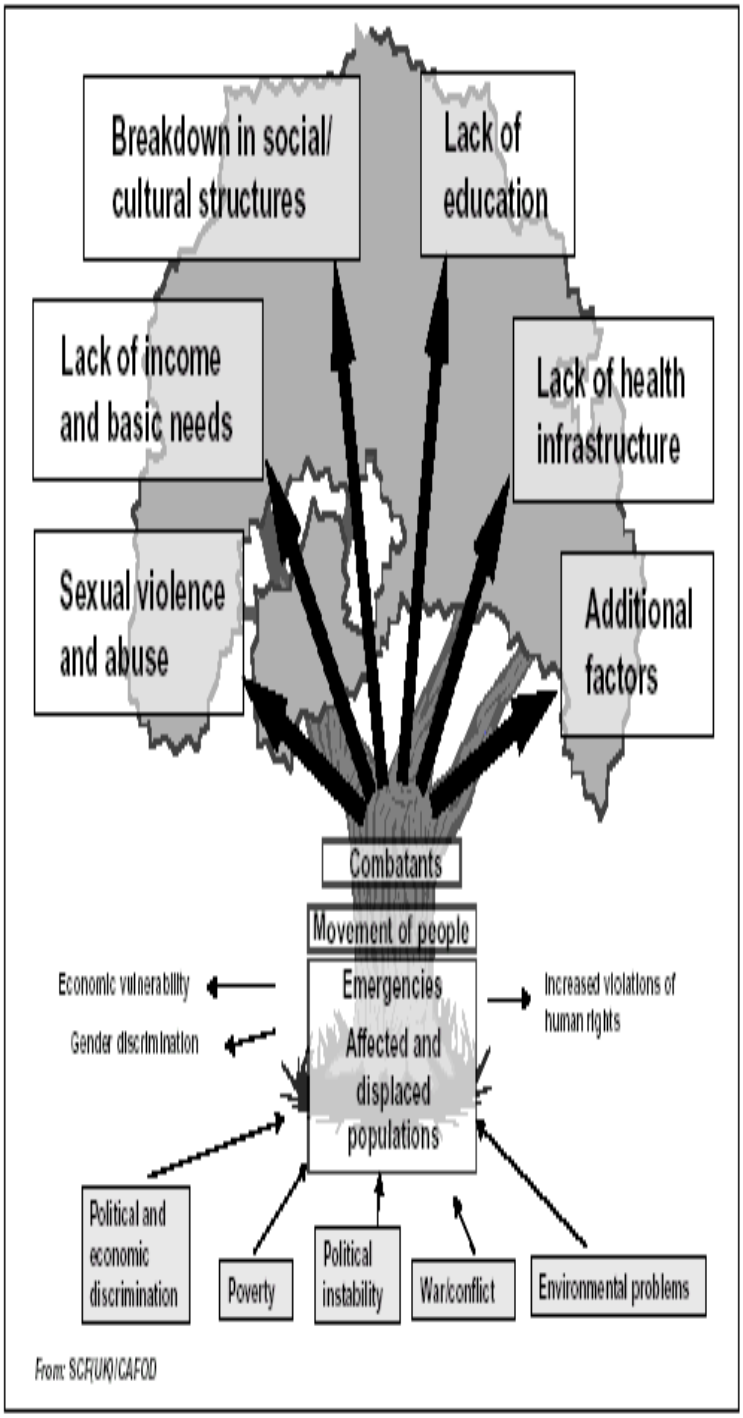


Figure 1: Factors Contributing to Affected and Displaced Populations

METHODS

This review consists of a systematic literature review of the evidence on sexually transmitted infections among the target population, complemented by an in-depth analysis of the incidence, prevalence, geographical and behavioral factors surrounding this issue. It aims to provide a situational analysis of the existing evidence from humanitarian crises and areas affected by man-made humanitarian disasters (armed conflict) or natural disasters afflicted on refugees and internally displaced persons globally.

KEY TERMS:

The following key terms and concepts relate to this systematic literature review and their definitions having been adapted from the World Health Organization (WHO) Humanitarian Health Action Dictionary.

Refugee: is defined as a person who has fled his or her country and is unable or unwilling to return because of persecution based on race, religion, nationality, membership in a social group, or political opinion. The term also includes those fleeing war, civil strife, famine, and environmental disasters.

Internally Displaced Person: have been forced from their homes, usually by civil strife, but remain within the borders of their own countries.

Humanitarian crisis: A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources, necessitating a request to national or international level for external assistance. The disaster situation may either be manmade (e.g. armed conflict) or a natural phenomenon (e.g. drought).

Man-made humanitarian disasters: These include international armed conflicts; non-international armed conflicts; and other situations of violence.

Natural Disaster: These include hazardous natural phenomena leading to humanitarian crises such as earthquakes.

SEARCH STRATEGY AND SEARCH TERMS:

This literature review uses peer-reviewed literature and expert consultation/review of selected references to ensure all key publications have been considered.

Peer reviewed literature was located using electronic bibliographic databases such as PubMed and Embase. The search structure consisted of the following:

- terms related to each sexually transmitted infections
- AND terms related to humanitarian crisis
- AND terms related to natural disasters, conflict and emergencies
- AND terms related to the target population (refugees, IDPs, asylum seekers)

INCLUSION AND EXCLUSION CRITERIA:

The following five key inclusion criteria were used in this review:

- **Types of Studies:** Primary quantitative research studies and systematic reviews and meta-analysis.

- **Populations of interest**: Populations affected by humanitarian crises and receiving humanitarian assistance in low and middle-income countries (based upon World Bank country classification). Specific to refugees and internally displaced persons affected by humanitarian emergencies, crisis and disasters.

- **Data type(s):** Must include primary data, systematic reviews and meta-analysis

- **Date of intervention and publication:** December 1, 1984 – February 19, 2017

- **Publication language:** English

Table 1: Inclusion and Exclusion Criteria		
Category	**Included**	**Excluded**
Types of studies	Primary quantitative research studies, systematic reviews and meta-analysis.	Studies without data; editorials, review studies
Populations of interest	Populations affected by humanitarian crises and receiving humanitarian assistance in low and middle-income countries (based upon World Bank country classification). Specific to refugees and internally displaced persons, humanitarian, emergencies, crisis and disasters.	General population
Data type(s)	Primary data, systematic reviews and meta-analysis.	Reviews
Publication date	December 1, 1984 – February 19, 2017	
Language	English	Other languages

Figure 2 Inclusion and Exclusion Criteria

An overview of the main results is firstly presented, followed by the results of the individual sexually transmitted infections and behavioral factors.

The following criteria were used to **exclude** studies from this review:

- Studies with no specific sexually transmitted infections
- Studies that examine health outcomes and communicable diseases not linked to sexually transmitted infections or the target population.
- Review papers; only references listed in review papers were screened to find more primary data sources.

STUDY SCREENING AND DATA EXTRACTION:

The systematic literature review for each sexually transmitted infection was conducted by one topic leader. For quality assurance, a secondary peer reviewer (capstone advisor) corroborated study selection and data extraction. Data were screened with the following five stages:

Stage One: electronic database search using terms; with results imported into reference management software, and duplicates removed.

Stage Two: title and abstract reviewed to remove studies not meeting the inclusion criteria (see above).

Stage Three: manuscript review to remove studies that did not meet inclusion criteria; paper selection.

Stage Four: review of references from selected papers in Stage 3.

Stage Five: final paper selection, data extraction, and analysis.

Data was extracted based on the specific points noted below and input into a Word document database:

- **Year of publication:** ascending to descending
- **Study country location**: Global north or global south
- **Specific sexually transmitted infection**: Gonorrhea, Syphilis, Chlamydia, Trichomonas, HIV/AIDS
- **Population type** (refugee/ internally displaced persons)
- **Humanitarian crises type** (armed conflict/natural disaster)
- **Study design** (primary/systematic review)
- **Measurement outcomes** (e.g. incidence/ prevalence/ behavioral aspects)
- **Target group**: all age groups with the above population types.

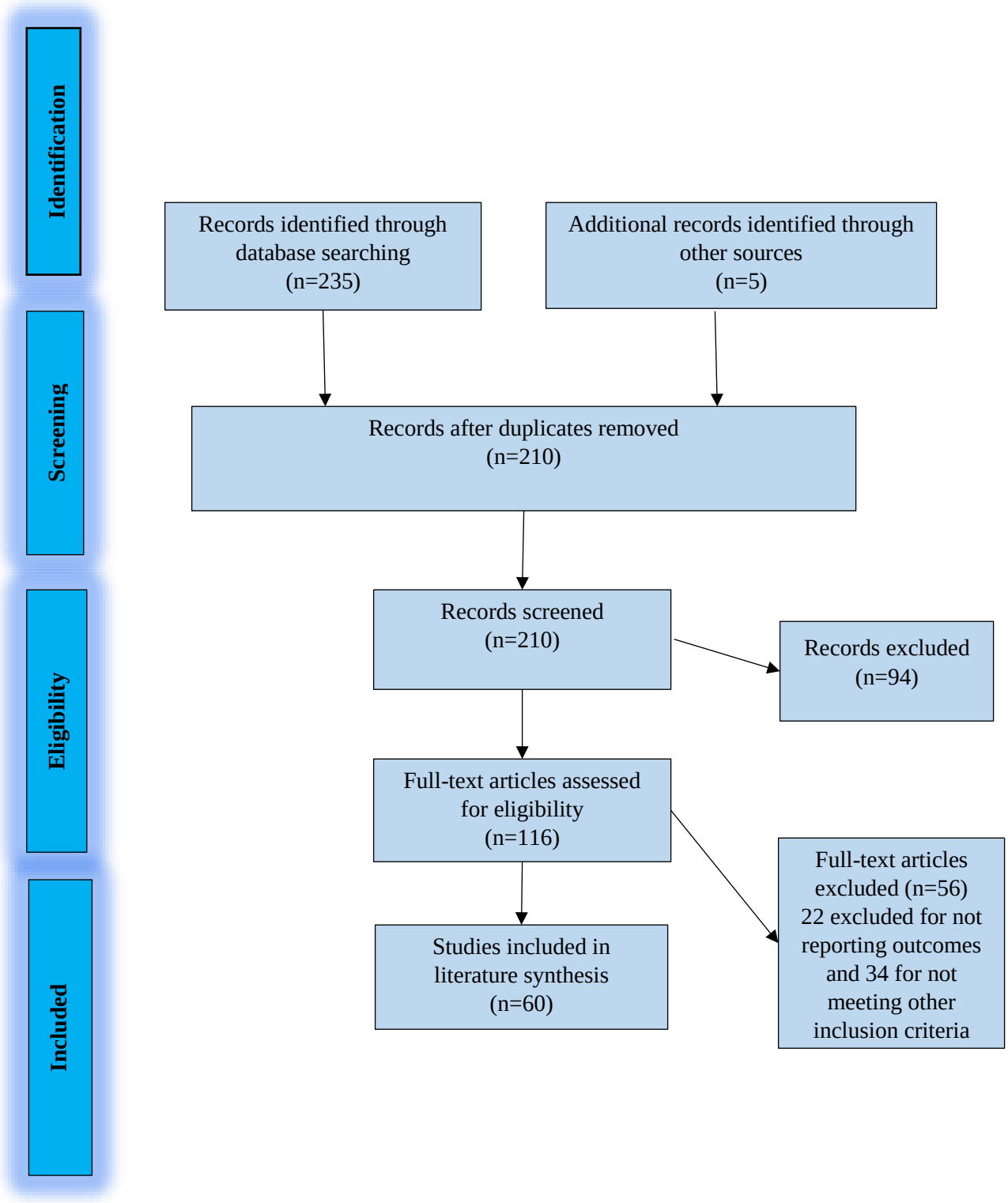


Figure 3 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart.

RESULTS

The review on sexually transmitted infections consisted of a general systematic review of the presenting evidence and an in-depth evidence review of specific sexually transmitted infections: Gonorrhea, syphilis, trichomonas, chlamydia and HIV/AIDS.

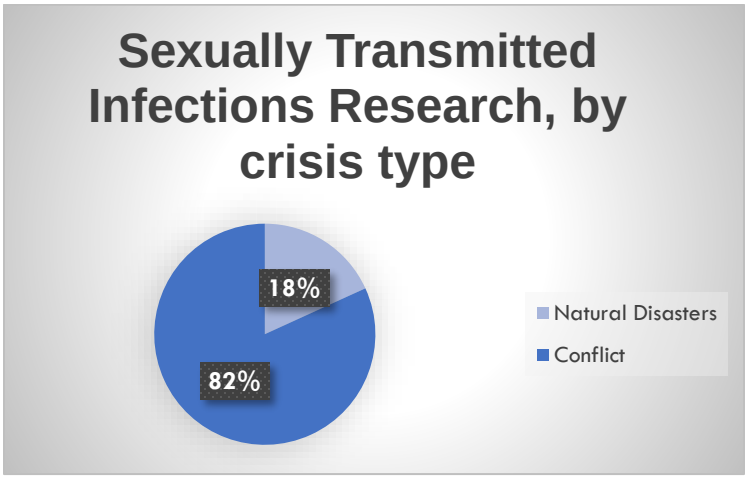


Figure 4 Sexually Transmitted Infections Research, by crisis type

Most studies occurred in global south (39/60, 65%) in comparison to global north (9/60, 16%) and both (12/60, 20%). The global north consisted of the following countries: United States, Canada, Western Australia, Malta, Italy and Germany. The Global South consisted of the following countries: Pakistan, Syria, Kenya, Sudan, Tanzania, Thailand, Myanmar, Jordan, Burma, Mozambique, China, Uganda, Lebanon and Yugoslavia. Both consists of a country from both the global north and global south.

General Literature Review

- A total of 235 peer-reviewed articles related to sexually transmitted infections (STIs), of which the clear majority (175) either did not address the target population of refugees and internally displaced persons or humanitarian crisis, conflict or disaster settings. A total of 60 peer reviewed articles covering sexually transmitted infections met the inclusion criteria.
- There was limited grey literature, of which none met the inclusion criteria.
- The analysis presented below relates to the 60 papers that fit the inclusion criteria.
- Primary data collection was (33/60, 55%) most commonly employed, followed by systematic reviews (27/60, 45%).

Most studies occurred in armed conflicts (9/11, 82%); only 18% (2/11) occurred in natural disasters.

Of those in conflict zones, 64% (7/11) were with refugees, 18% (2/11) with IDPs and 18% (2/11,) with the general population.

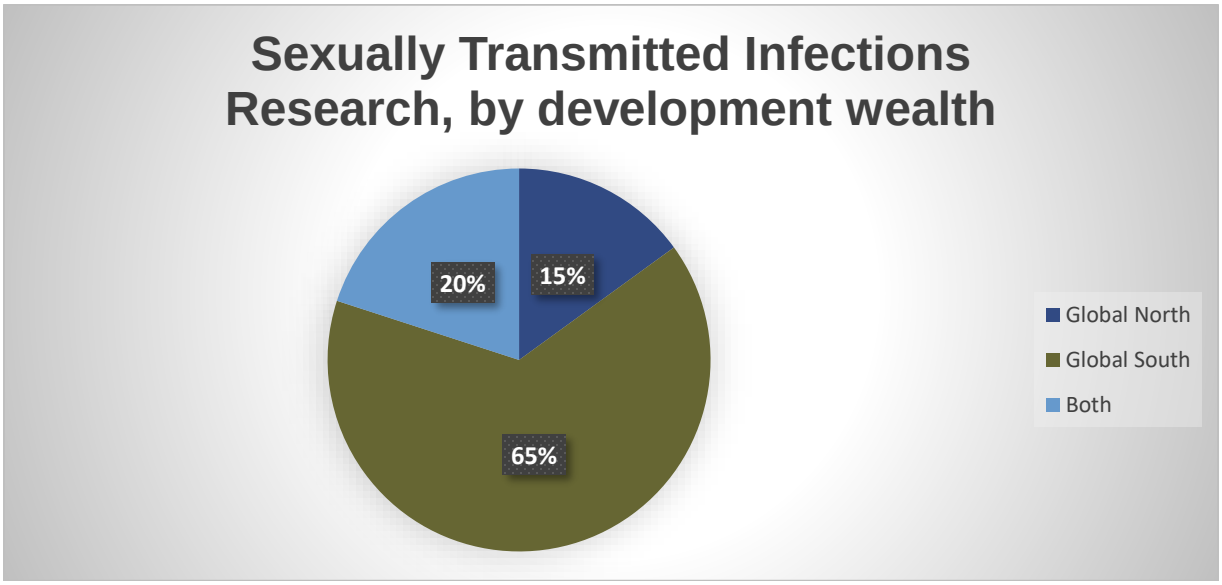


Figure 5 Sexually Transmitted Infections Research, by Development Wealth Distribution

The total number of people affected by emergencies in 2006 was estimated at 185 million with Sub-Saharan Africa accounting for 50 million people. It accounts for the largest number of emergency-affected people living with HIV (88.7%). In 2006, 128,000 refugees were living with HIV accounting for 7% of the global emergency affected population living with HIV. [53]

There were nineteen studies that were directed to improve prevention, treatment and care for STIs. Six were preventive based and thirteen aimed at clinical treatment. While most of the studies [3,5,10, 21,29, 38,41, 57] discussed limitations appropriately, one of those that did not was deemed to overstate the causative attribution of its findings.[30]

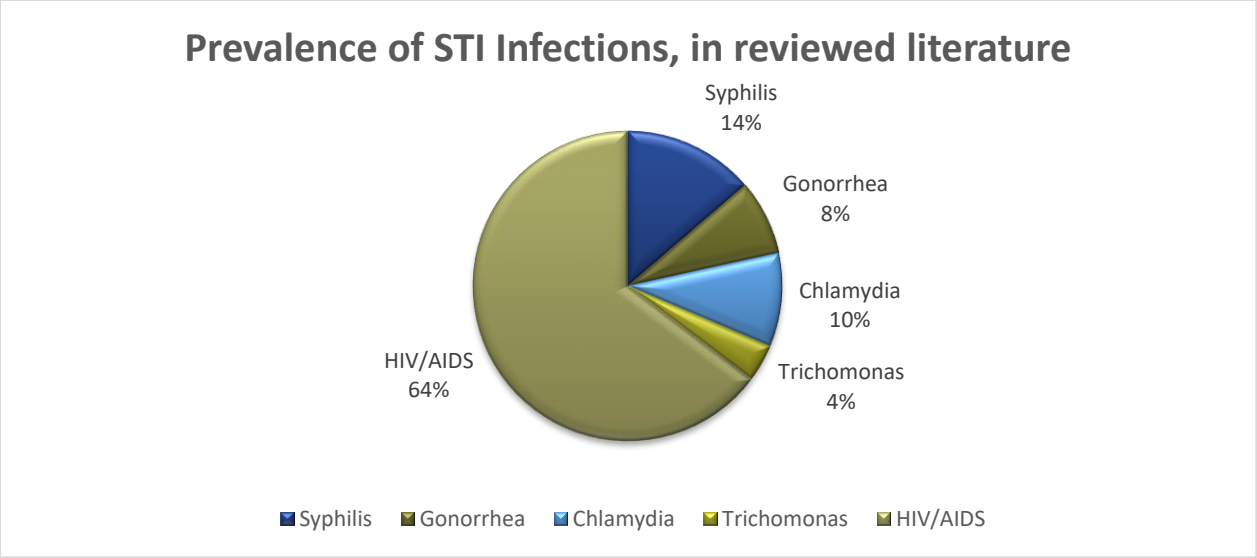


Figure 6 Prevalence of STI Infections, in reviewed literature

Out of the global north studies, three of them focused on gonorrhea, [14,37,54] and five on syphilis.[16, 22,37,42,56] These studies attempted to identify STIs in refugees and IDPs that settled in global north countries after migration from global south countries. The main objectives of these articles were screening and clinical treatment to limit the spread to non- refugee and IDPs in the concerned countries. In the global south countries, the focus was also on screening, however, emphasis was on causative factors for obtaining STIs such as lack of access to condoms, multiple partners and transactional and forced sex. There was also a higher prevalence of a combination of multiple STIs as well as HIV/AIDS.

A total of twenty global south articles discussed HIV/AIDS in comparison to only two global north articles an HIV/AIDS association.[7,42] Approximately 70,000 refugees arrive in the United States on a yearly basis.[54] In comparison, the migration from conflict afflicted countries with low HIV prevalence rates to more stable countries with higher prevalence rates increased chances of staying healthy while living in a host country with easy access to health care, counselling, food aid and condoms.

CHLAMYDIA AND GONORRHEA:

Studies of resettled or immigrant populations in developed countries has also been undertaken, without similar pattern identification. The prevalence of chlamydia and gonorrhea in refugee populations on arrival from a global south to north country was low. A total of 18,516 (72%) refugees were tested for at least one STI: 183 (1.1%) of 17,235 were seropositive for syphilis, 15 (0.6%) of 2,512 were positive for chlamydia, 5 (0.2%) of 2,403 were positive for gonorrhea, 136 (2.0%) of 6,765 were positive for human immunodeficiency virus, and 6 (0.1%) of 5,873 were positive for multiple STIs. Overall prevalence of chlamydia (0.6%) and gonorrhea (0.2%) infection was low. [54] A similar study was done in Western Australia[14] and the prevalence of chlamydia was found to be 0.8% (n = 21) in the refugee population. No gonorrhea infections were detected. The prevalence of chlamydia was low (0.19%-1.23%) when analyzed by sex, ethnicity or age and was considerably lower than other subpopulations considered high risk in Australia. A potential gap in the above findings could be that current screening guidelines should be updated. Another study done in Canada on newly migrated refugees indicated similar findings with an overall rate of HIV infection at 2%.[42]

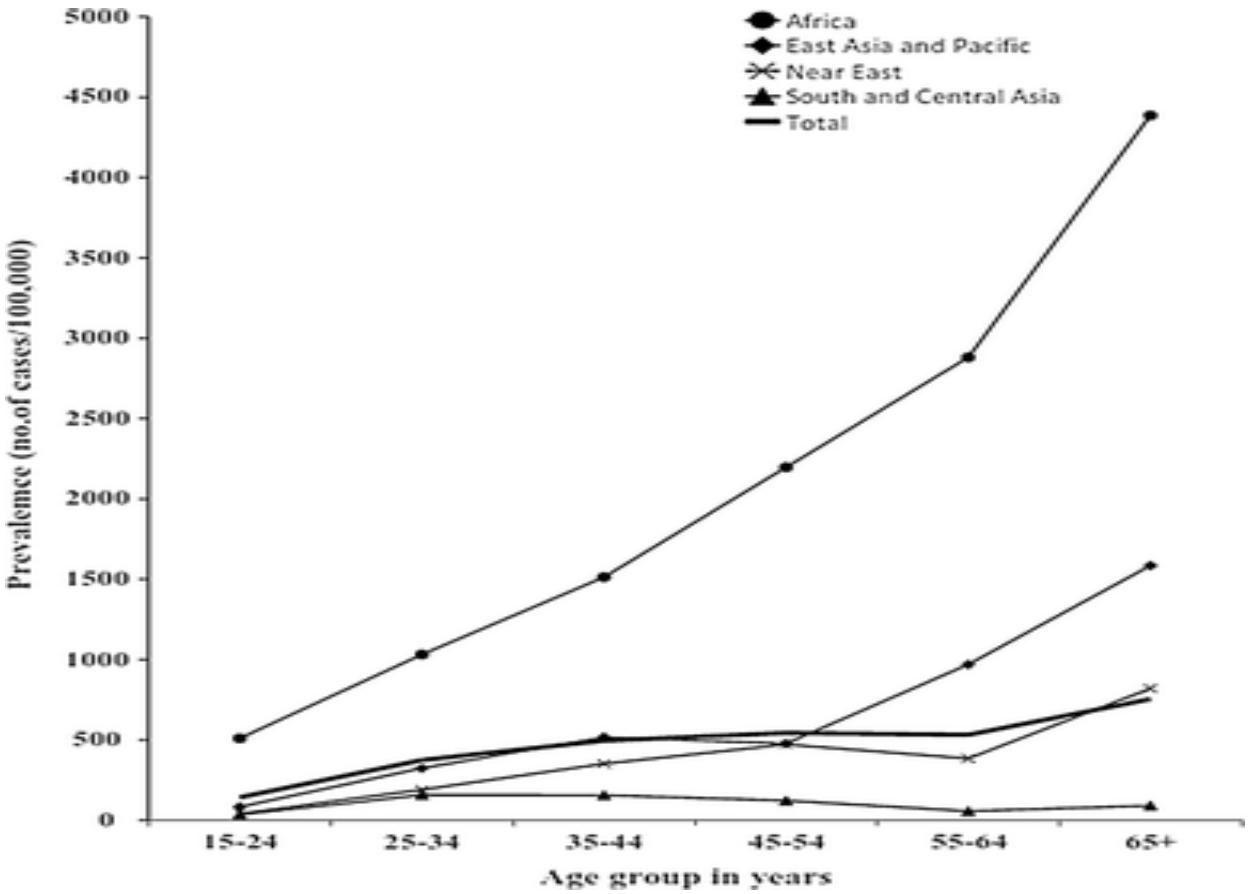
SYPHILIS:

Nine articles discussed HIV and syphilis together[2, 5, 9,15, 16, 29, 39,40,56] in refugees and IDPs and an additional four articles that included HIV and Syphilis with other STIs. [2,5,9, 15]

Among 234,320 refugees who underwent syphilis screening, 874 cases of syphilis were identified, resulting in an overall prevalence of 373 cases per 100,000 refugees.[37] In bivariate analysis, a higher proportion of refugees with syphilis

were male (69.5 %, $p < 0.001$), lived in non-camp settings (78.5 %, $p < 0.001$), and had less than secondary school education (52.6 %, $p < 0.001$) compared with refugees without syphilis. During the period when HIV testing was still mandatory, a higher proportion of refugees with syphilis had concurrent HIV infection compared to those with negative syphilis screening tests (1.0 vs. 0.3 %), though this difference was not statistically significant (p value = 0.12). Most syphilis cases (54.2 %) were aged 25–44 years from Africa. An overall increase in the prevalence of syphilis seropositivity was seen with increasing age (Fig. 7). Increases in prevalence with advancing age were more marked among refugees from Africa and East Asia and the Pacific than refugees from other regions, with the highest prevalence (4385 per 100,000) observed among refugees older than 65 years from the African region. [37]

Figure 7 Syphilis Seropositivity with Increasing Age



In screening for syphilis and HIV in migrant and refugee women on the Thai-Myanmar border[40] seroprevalence for HIV was 0.47% (95% CI 0.30-0.76) (17/3,599), and syphilis 0.39% (95% CI 0.23-0.65) (14/3,592), were low. Syphilis was significantly lower in refugees (0.07% 95% CI 0.01-0.38) (1/1,469) than in the general population. In a similar study done in Pakistan[45], refugees and women with grand multi-parity made the high-risk groups of targeted testing (P <0.001).2 In two other syphilis studies,[39, 56] the prevalence of syphilis in Malta and Italy among refugees was low. Some gaps in the above literature can be inadequate screening as well as consideration of the incubation period of the disease itself. Some limitations with syphilis findings such as some of the diagnostic tests lacking specificity for syphilis as well as consideration of the different stages of syphilis. In countries like Sudan, Mozambique, Rwanda and Tanzania, the prevalence of syphilis was low, however, it was highly prevalent in association with HIV/AIDS.

TRICHOMONAS:

There was not sufficient information on the prevalence of trichomonas among the target population. Only one article discussed the prevalence of trichomonas among the Syrian refugees,[62] one discussing the prevalence of trichomonas and gonorrhea[54] and one with syphilis and gonorrhea. The data indicated that the prevalence of trichomonas (36%) detected in the female Syrian refugees is higher than the prevalence (3-13%) of the general population. It was also close to the prevalence (40%) in groups with risky behaviors (sex workers). Some limitations to this study was that only 157 symptomatic women were tested. A notable gap is that asymptomatic women were not considered. In addition, risky behavior was only identified in sex workers, but not in the general population.

HIV/AIDS

Contrary to the belief that refugees carry HIV/AIDS with them on entrance to host countries and spread the infection to the host population, evidence suggests that refugees migrate from countries of lower HIV/AIDS prevalence to stable host countries with higher prevalence like syphilis as discussed above. Studies conducted in Kenya, Rwanda, Sudan and Tanzania examined refugees and noted that three of the four countries (Kenya, Rwanda and Tanzania) had lower HIV prevalence rates than the general host population.[48] The differences between country of origin and the host country during contact or exile is critical to assess outcomes.

In 1992, Cossa et al carried out a study and confirmed syphilis in 12.2 percent of the women and HIV in 2 percent of 1,728 displaced pregnant women in Zambezia Province, Mozambique' Zambezia Province.[5] The authors observed that the HIV rate was low, but that a high syphilis rate was present. Factors such as absence of transmission factors and the new incidence of HIV are possible. The authors also noted that prior studies in Mozambique indicated an HIV prevalence of 3.4 percent in 1987 and 4.6 percent in 1990, which was significantly higher than the general population of Mozambican population in 1987. The authors described a 1983 study that showed a syphilis rate among pregnant Mozambicans in eight provinces of 6.3 percent, and note that it was not possible to determine whether the apparent increase between 1983 and 1992-1993 is the result of the effects of displacement, geography, or time. The 1992-1993 study showed no correlation between syphilis or HIV seropositivity and duration of displacement.

Another study done in the United Kingdom in 1998 tested 196 refugees from Yugoslavia and age-matched British controls which showed 34 percent of the immigrants and 27 percent of the controls had an STI.[36] A study published in 1995 found an HIV prevalence of 6.3 percent among 5,234 African and Haitian refugees in France attending a dispensary for foreign nationals. Vietnamese refugees in Hong Kong were tested for syphilis in 1989 and the prevalence of syphilis amongst a group of pregnant Vietnamese refugees in Hong Kong was found to be 3.4% and no HIV cases were present. [21]

Studies have correlated HIV transmission and other sexually transmitted infections to migration that are due to conflict. In these studies, border areas where populations are highly mobile have been identified as a risk factor for HIV infection. [33, 37, 39,43, 44] Data suggests that HIV prevalence is high at main transport routes and cross border intersections such as Southern China, Cambodia, Malaysia, Thailand and Vietnam along migration routes. Effects of migration resulting from conflict at home has severe effects. Data from a study in Rwanda shows that mixing populations with different HIV prevalence rates increases HIV prevalence overall.[1] Post displacement and the prevalence of HIV/AIDS among those who had lived previously in refugee camps in Tanzania was 8.5 percent. The internally displaced that remained in Rwanda during the conflict had a higher prevalence of HIV/AIDS. [27,28, 53] There was a larger increase, however, for internally displaced women. Of the IDP women who survived rape, 17 percent were HIV-positive.[53]

Following the movement of refugees from Rwanda to Tanzania in mid-1994, Mayaud et al examines a crisis response within a high HIV prevalence setting.[27,28] Education was delivered through distribution of brochures, condoms and peer education among sex workers. During the 18-months, 230 000 sexually active people were contacted and 1.5 million condoms were distributed throughout the camp.[27] The study authors identified that sexual behaviors were still not safer despite the above interventions and there was an increase in paid and transactional sex, sexual violence and in turn increased prevalence of STIs.

Rowley et al[44] discusses Lugufu refugee camp, in Tanzania, where 92% indicated that that transactional sex occurred after displacement. Village respondents reported that 90% occurred after the arrival of refugees to the community than before. All the respondents, both male and female could obtain condoms (95% and 97%). Both the Nakivale and Lufugu refugee settlements allowed free movement of refugees and nationals with high mobility and interaction as a risk factor. This mobility and interaction is an HIV risk factor for refugees. Most individuals in this settlement were not using condoms even though HIV and condom access appeared to be high. Reported condom use was also low among refugees with multiple regular, casual and transactional sex partners. In Lufugu camp,

STIs were more common in the villages compared to the camp and reported STI symptoms and sought treatment. This indicates there may be a need for better integration of STI issues into ongoing health education programs and service delivery in the camp. Although transactional sex was reported after displacement, respondents may have been displaced prior to their placement in Lugufu or become sexually active while in the camp. In both camps, transactional sex without condom use occurred post-displacement indicating that disruption and displacement can be a possible coping mechanism during crisis affliction. Similarly, in both studies, STIs were more common in the villages compared to the camp indicating the need for integration of STI related issues into ongoing health education and better accessibility to services within the camp.

Spiegel et al points out that although conflict, displacement, food insecurity and poverty do make affected populations more vulnerable to HIV transmission, this vulnerability does not necessarily translate into an increased risk of HIV transmission.[48] Among the largest sample of refugees and nationals surveyed in ten countries, there was no collective evidence that refugees had high levels of risky sexual partnerships than host nationals.[50] Those who were not forcibly displaced had low levels of multiple partners, casual sex and HIV infection especially in South Sudan. Multiple sexual partnerships were, however, associated in 30% of the sites with risky sexual behavior in almost 40% of the sites. Factors such as being away from home in less than twelve months resulted in multiple partnerships and low condom use (<5%). Sexual behavior was also not only reflective of individual attitudes, but by community sexual norms.[51] Many new HIV/AIDS infections in Africa were more likely to occur among discordant couples. Women in stable camps were also not at an increased risk of forced sex in comparison to surrounding communities with the most common perpetrator of forced sex being one's own regular partner. Forced sex among women was also the same level among refugees and nationals.[50] Data has suggested that prolonged conflict has slowed the progression of HIV (Sierra Leone, southern Sudan and Angola),[18, 32] but also in which conflict may have increased the progression of HIV (eastern Congo).[48] This further iterates that context-specific circumstances and community attitude must be better understood.

DISCUSSION

The review identified only twelve studies that had a direct relationship with the risk of STIs of specific STIs or in combination in humanitarian settings that met the above inclusion criteria. There were factors that influenced the knowledge and attitudes and behavior of the target population. These factors contributed to the development of STIs and HIV/AIDS in both refugees and IDPs. There was increased evidence to support HIV and STI education, condom distribution and literacy and education programs. Few studies identified aggressive factors that contributed to the development of STIs in a humanitarian setting such as gender based violence and military involvement.

Other significant gaps included that just one study looked at natural disasters and the impact on the spread of STIs. The focus of the rest of the articles was on man-made disasters versus natural disasters in the humanitarian setting such as armed conflicts. Undoubtedly, although these settings are particularly important, it is necessary to delve further into natural disasters and the causative association with STIs given that they are often sudden and unpredictable and traditional priority is given to food, shelter and security and not health outcomes. It is also of great importance to include scaling up of screening measures that increase specificity of the STIs and improvement of diagnostic techniques in the humanitarian field since resources are scarce. Most articles mentioned the different services available, but further detail as to specific groups within or outside of camps would be useful.

A further area of concern with screening and diagnostic modalities is inclusion of a cost-effective analysis which is needed for appropriate scaling up and needed interventions. Limitations with data collection also varied among articles. Different methods were utilized to collect data among refugee, host community and the country of origin population with variable quality of data. The data for the surrounding host population or region within the country of origin was not always readily available and proxies were used. Comparisons

could also be biased due to different contexts and year and observing trend data from 1985 until 2017 was not always available to draw conclusions and make comparisons.

There was little importance given to STIs that had less severe clinical symptoms. STIs such as gonorrhea, chlamydia, trichomonas and syphilis are given less priority than HIV/AIDS and this is evident in the number of existing studies done. The area of priority for the included literature was screening for STIs and causative factors., however, there is also a need for inclusion of economic data to inform decision-making for delivery and scaling up of screening techniques and diagnostic procedures. Another limitation of this review is that the 60 studies included did not all focus on the same sexually transmitted diseases. They were discussed in combination, while more priority was given to HIV/AIDS with 27 studies of focus. Furthermore, the formulation of the questions used to assess behavioral change varied between studies, making it difficult to directly compare the findings of individual studies. Another potential limiting factor is the age variation of participants in the studies included in the review, it ranged from adolescent to adult men and women, and few studies clearly investigated the association between age and behavior or knowledge and awareness of causative factors.

Overall, there was limited evidence on sexually transmitted infections in the target population and setting. It can be attributed as a logistical challenge given that conducting research in a humanitarian setting especially during a crisis and with high levels of insecurity, limited resources and drastic changes with population mobility is difficult. Secondly, many of the studies have been done post-conflict and in a stable setting, thereby evidence that may have been present in the pre-conflict and conflict phase is lacking. These findings critically shape the amount of available evidence and allow for further research and development. Thirdly, mortality and morbidity due to these infections in a humanitarian setting is not identified and is lacking. This lack of evidence suggests weaknesses in investigating and documenting measurable health outcomes. There is a need for this information to assess the extent of disease burden and in developing existing interventions within the humanitarian setting.

CONCLUSION

The spread of sexually transmitted infections and HIV/AIDS and STIs is a major concern in all populations throughout the world. These infections involving refugees and the displaced is especially concerning given that social, economic, psychological, and infrastructure upheaval in humanitarian crises makes response and action difficult. Although individual vulnerabilities and risks exist for persons affected by conflict this does not appear to translate into increased HIV infection at the population level. The available literature is sufficient to support the findings that the spread of STIs and HIV/AIDS is worsened in these vulnerable populations and that focused attention is necessary. Given the gaps and limitations, however, substantial progress is still necessary to overcome barriers.

In general, the studies all reported high levels of knowledge and awareness of sexually transmitted infections in both global north and global south hemispheres specifically to HIV/AIDS. Areas of conflict and displacement have increased risk factors such as multiple partners, easy mobility, transactional sex and forced sex that increases the incidence and prevalence of development of sexually transmitted infections. Access to condoms and education about safe sex practices was adequate, however, knowledge does not always translate into behavior change. Looking beyond HIV/AIDS and giving due attention to other STIs such as gonorrhea, chlamydia, syphilis and trichomonas is essential for continued progress in the future.

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