

# Female garment workers' understandings of sexually transmitted infections in selected low to middle-income countries: A systematic review

Shakeel Mahmood\*

School of Humanities and Social Science, Faculty of Human and Social Futures, University of Newcastle, Callaghan NSW 2308, Australia

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Corresponding author:

**Shakeel Mahmood, Ph.D. Candidate**

Phone: +61449103904

Email: [shakeel.mahmood@uon.edu.au](mailto:shakeel.mahmood@uon.edu.au)

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## Abstract

**Objective:** This study reviewed the current state of knowledge of female garment workers' (FGWs) personal understandings and their experiences of their human immunodeficiency virus (HIV) experiences in selected low to middle-income countries (LMIC).

**Methods:** Relevant literature on FGWs health on sexually transmitted infections (STIs) and HIV within selected LMIC published between 1988 and 2020 carried out, and a systematic review search technique used, utilizing the PRISMA protocol. Significant and relevant information from selected articles obtained and presented existing literature in the method of new outcomes as well as critically interpret existing outcomes. The themes and keywords were examined in the abstract and title of literature extracted using the aforementioned search engines.

**Results:** Major causes of HIV vulnerability of FGWs are poverty (low wages), gender inequality, drug abuse, multiple sex partners, lack of knowledge on STIs/HIV, low use of condoms, and rape violence found in selected LMIC.

**Conclusion:** For empowering FGWs, health education/workplace intervention is crucial, comprising prevention of sexual harassment, workplace violence (WPV), and intimate partner violence (IPV) related training by government sectors, non-government organizations (NGOs), and civil society. A good surveillance system on key populations, including FGWs, and a good public health system in every country is the key and acts very fast for prevention of STIs and HIV on FGWs and contribute to guide policymakers and researchers and improve FGWs health in LMIC.

Keywords: female garment workers; STIs and HIV; violence; social policy; selected LMIC

## Introduction

Human immunodeficiency virus (HIV) infection is considered an unprecedented public health risk and a major disease burden in low-and lower-middle-income countries (LMIC) (D. Chen et al., 2020;

Gourab et al., 2019; McFarland et al., 1999; Wang et al., 2016). According to UNAIDS (2015), HIV ranked as the 17th leading cause of death in South Asia (Gourab et al., 2019; Wang et al., 2016). Despite the declining prevalence of HIV across the past decade, the associated disease burden is still alarming in

selected LMIC (Gourab et al., 2019; Wang et al., 2016).

The ILO (International Labor Office) reckons that annually nearly 2.3 million people die from occupational injury or disease; 86% of them die from work-related diseases globally (ILO, 2015, 2019). Globally, each year 340 million workers experience non-fatal work-related disease (ILO, 2019). Low to middle-income countries (LMIC) experience an inconsistent number of these sicknesses, and deaths, due to poor and the environment of protection in which female garment workers' (FGWs) function (Collaborators, 2015; Haagsma et al., 2016).

Infectious diseases are very much prevalent in LMIC. In fact, infectious diseases, such as HIV/AIDS, are emerging and imposing now on those countries with limited resources. However, they are still struggling to meet the challenges of HIV/AIDS (Mahmood, Ali, & Islam, 2013).

### **Ready-Made Garment (RMG) Industry in LMIC**

The ready-made garment (RMG) industry is one of the popular industries that immensely supports the LMIC economy. RMG industry has suffered the highest work-related injuries and accidents in the recent past. Although being one of the trendiest RMG industries globally in LMIC, FGWs put their safety and health in danger each time they are at work (Mohd Hajaraih, Gordon, & Tabb, 2019). The RMG industry is significant in social and economic terms, mainly in LMIC. RMG industry is also amongst the largest and oldest export factories in several LMIC, such as Bangladesh, Vietnam, India, and Cambodia. In LMIC, economies depend on work opportunities and as facilitators to economic and industrialization growth (Manimaran, Rajalakshmi, & Bhagyalakshmi, 2015). In the short run, FGWs bring incomes, and foreign currency receipts, and employment for women. However, in the long run, FGWs provide the chances to maintain monetary growth in LMIC with appropriate policies and institutions to advance the dynamic impact in RMG sectors (Keane & te Velde, 2008).

The aim of the research critically examines FGWs personal understandings of sexually transmitted infections (STIs), predominantly human immunodeficiency virus (HIV), through a systematic review in selected LMIC around Eastern Hemisphere.

### **Gap in the Literature**

There is a shortage of literature focusing specifically on the STIs and HIV health-related susceptibilities of FGWs in LMIC. Hence, this systematic review aims to recognize what is presently recognized about the STIs/HIV susceptibilities of FGWs in selected LMIC. The question motivating this research is: "What are the understandings of STIs and HIV to FGWs in selected LMIC?" This research question is addressed through a systematic search of the existing evidence. In this paper, the corresponding author seeks to recognize the distinctive type of STI and HIV susceptibilities, along with the causes and consequences of these infections' susceptibilities.

## **Methods**

### **Search Strategy**

This review was carried out using the procedure defined in the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Liberati et al., 2009; Moher, Liberati, Tetzlaff, & Altman, 2010). Significant studies for this systematic review were recognized by screening eleven electronic databases of PubMed, Medline, EBSCO, Scopus, Google Scholar, WHO, Embase, ProQuest, and the United Nations (UN) and World Health Organization (WHO). Google Scholar is considered a non-scientific search engine. It was incorporated to confirm that can be depicted all accessible evidence from the selected LMIC, which may have been published in non-indexed journals on the included databases (Haque, Begum, & Fahmida, 2008). Furthermore, manual searching was conducted to categorize and review important and relevant articles in the academic database and library of the University of Newcastle, Australia. Articles (study design) covered a wide-ranging collection that comprised social science, philosophical debates, public health ethics, and descriptive cross-sectional reports and thesis paper, as well as quantitative and qualitative studies. The corresponding author executed a content analysis of all data and concise it under certain themes, and then compared and contrasted the outcomes as they related to FGWs and their vulnerability and susceptibility to STIs/HIV (Gale, Heath, Cameron, Rashid, & Redwood, 2013).

The keywords and themes that are farmed (Table 1) in the search were combinations of 'chlamydia', 'syphilis', 'gonorrhoea', 'sexually transmitted disea-

ses', 'sexually transmitted infections' 'human immune deficiency virus', 'violence', 'women and health', 'female', 'garment' or 'clothing' or 'fabric' or 'textile', Low and middle-income country/LMIC"; AND 'Low- and middle-income country/LMIC'. Additional searches were done for garment and textile industries robust in selected LMIC (e.g., Bangladesh, Cambodia, Congo, Egypt, India, Lesotho, Nepal, Sri Lanka, Ivory Coast, Zaire), which are represented in the PRISMA flow chart (Figure 1).

**Table 1** Themes and Keywords

#	Themes	Keywords
1	The factory	'owner', 'ready-made', 'readymade', 'RMG', 'BGMEA'
2	The infection	'sexually transmitted diseases', 'sexually transmitted infections' 'human immunodeficiency virus', 'syphilis', 'gonorrhoea', 'chlamydia';
3	The exploitation	'violence', 'intimate partner violence', 'workplace violence', 'rape', 'sexual violence'
4	The gender	'women and health', 'female',
5	The work	'labor', 'labor',
6	The apparels	'garment' or 'clothing' or 'fabric' or 'textile',
7	Country of origin	'Bangladesh', 'Cambodia', 'Congo', 'Egypt', 'India', 'Lesotho', 'Nepal', 'Sri Lanka', 'Ivory Coast', 'Zaire'

Primarily, these themes and keywords were examined in the abstract and title of literature extracted using the aforementioned search engines. Furthermore, promising and research articles searched to understand any additional impending evidence from the reference lists. The corresponding author fixes the search strategy in discussion with the University of Newcastle librarian, together with the purpose of keywords of the search items in the abstract and title of the articles.

### Study Selection

The literature search (study) was conducted between October 2017 and July 2020 to explore the present health susceptibilities on STIs and HIV among FWGs from selected LMIC. During this time, collected literature reviewed, evaluated, and synthesized for analysis and validation. Overall, 10,079 research papers were recovered from the databases of international and national peer-reviewed journals and websites from 1988-2020.

Grey literature also explored. Literature-based on secondary data and research review papers was also measured for this critical review. Online sources of social, public health, and STIs/HIV-related research papers investigated for relevant publications. This review comprised two steps: first, an extensive search of the existing literatures conducted, and then it screened the collected research papers in terms of their relevance to FGWs on STIs and HIV in selected LMIC. One hundred documents have been cited in this research paper. Throughout the analysis, process efforts were made to synthesize relevant data to gain a comprehensive understanding. Relevant conference presentations related to STIs/HIV in women together with findings of historical observations and a cross-sectional prevalence study of STIs/HIV in selected LMIC were included. This systematic review tried to add to current information in the method of new conclusions and critically assess current findings aimed at reducing FGWs HIV/STIs risk in selected LMIC. The primary research question for this research project is what is the accessible evidence in existing research papers on STIs/HIV among FGWs in the RMG industry in selected LMIC?

### Specific Objective:

- To describe the experiences of female garment workers in LMIC.
- To explore their perceptions regarding the main barriers and enablers of the STIs and HIV of female garment factory workers in LMIC.
- To understand the multiple contextual factors of garment factory workers' lives, which put them at risk of STIs and HIV infection in LMIC. This understanding is key to future program development and effective policies directed towards STIs/HIV prevention for this population of women in LMIC.

### Geographic Location of the Research Project

The geographic location of each research project incorporated in this systematic review suitable for the criteria and standards to be classified as a selected LMIC. The research project was performed in 10 various countries, Research papers that were ultimately incorporated focused on STIs/HIV on FGWs in Bangladesh ( $n=7$ ), Cambodia ( $n=3$ ), Congo ( $n=1$ ), Egypt ( $n=1$ ), India ( $n=4$ ), Lesotho ( $n=4$ ), Nepal ( $n=2$ ), Sri Lanka ( $n=1$ ), Ivory Coast ( $n=1$ ), Zaire ( $n=1$ ).

## Search Results

Initial searches incorporated 10,079 research papers, and after eliminating 8966 documents (based on titles and abstracts), 1135 research papers remained. 465 duplicate research papers were eliminated, with 670 research papers remaining for additional consideration. Searched items that were manually done ( $n=670$ ), 337 studies were eliminated (on the basis of whole research papers) after using the suitability standards (screening the title and abstracts, and irrelevant to issues). As an outcome, 295 documents were recognized by the

research project type, of which 149 research papers concentrated on STIs/HIV vulnerabilities among FGWs in the countries stated. Of these 138 research papers, 114 documents were eliminated due to inaccessibility of full document and did not include a sample of FGWs ( $n=11$ ) and where FGWs were respondents, but they do not fall under selected LMIC (103). From this process, 25 articles (4 mixed methods, 6 qualitative, and 15 quantitative) were incorporated in this critical review (Figure 1 PRISMA flow chart).

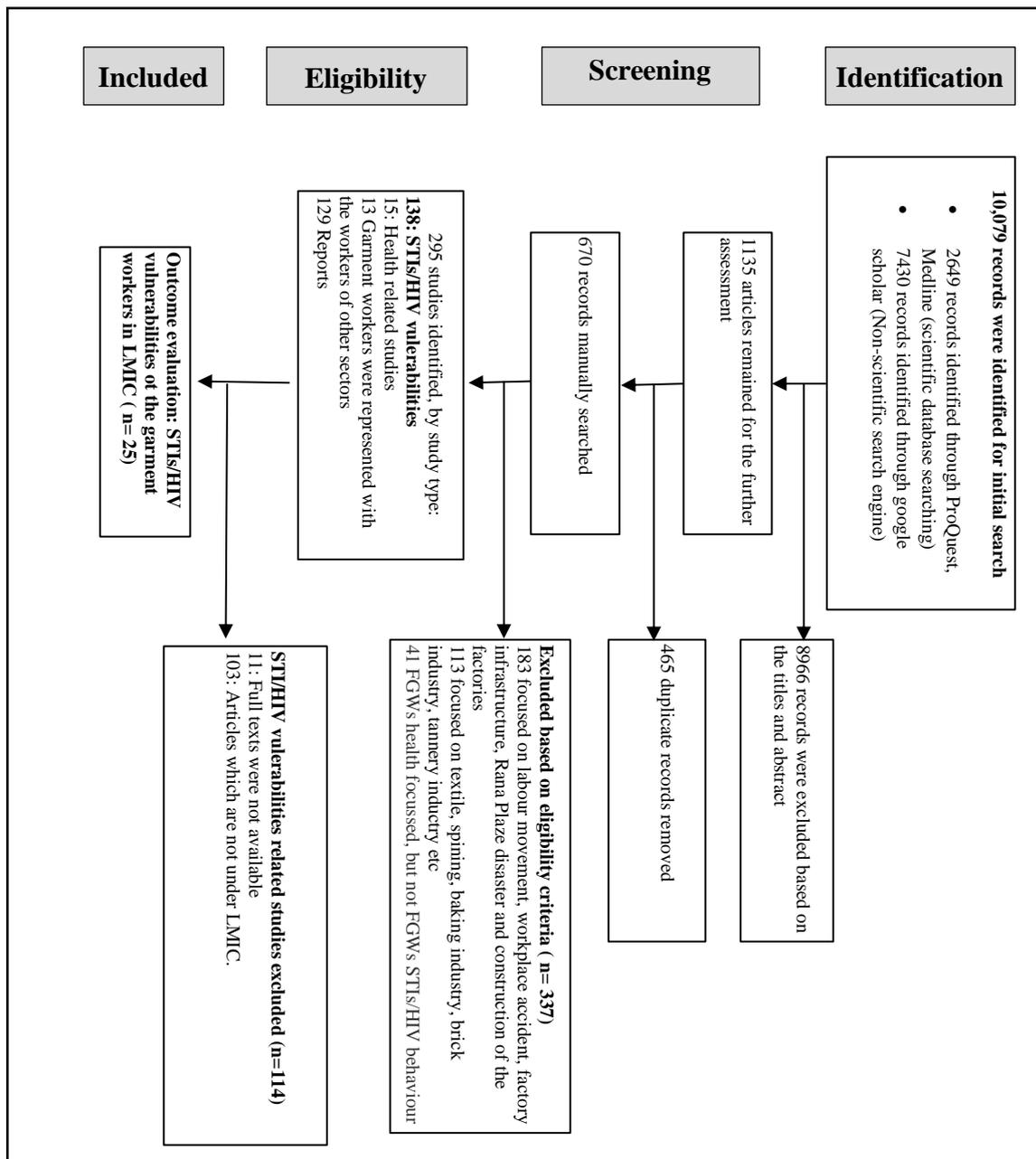


Figure 1 PRISMA Flowchart

## Mapping the Data

Excel (Microsoft) operated to categorize, and data removed from the research project were recorded on it. Spreadsheets prearranged by authors of the research paper, the year, country, where the research project was operated and explicit country mentioned (if any), frame, sampling demographic characteristics, participants' and major results from the research, particularly on STIs/HIV reported in the research project.

## Eligibility Measures

### *Inclusion Criteria*

The corresponding author assisted as a reviewer for the selection of the articles. The corresponding author screened the abstracts and titles of each document for potentially relevant documents. Articles incorporated if they qualify the inclusion criteria for this systematic review. The criteria are:

- Peer-reviewed research papers published between 1988 and 2020.
- Literature-based on secondary data and research review papers and reports measured for the systematic review.
- Research papers incorporated data on STIs/HIV vulnerabilities and susceptibilities, gender issues, labor rights and social compliance, awareness about hygienic practices, economic development, socio-political consciousness, occupational health, and wages.
- Research papers, which are available in English.
- Data gathered from FGWs in selected LMIC.
- The corresponding author attempted to choose research papers from dependable resources and professional academic databases to confirm the comprised documented are reputable.

### *Exclusion Criteria*

- Research papers associated with other than STIs/HIV topics (such as the Rana Plaza Disaster, construction of the factories) of the FGWs of the selected LMIC excluded.
- Research papers that concentrated on the cotton industry, silk industry, and another export-processing zone (EPZ) eliminated.

### *Collating, Summarizing, and Reporting the Results*

- FGWs established almost 2/3 of the research represented in the research project. The mainstream of the research ( $n=5$ ) comprised solely FGWs to accumulate the data and ( $n=8$ )

research papers concentrated on both male garment workers and female garment workers, and ( $n=1$ ) research paper concentrated on only male garment worker as the research respondents; ( $n=1$ ) the document did not identify gender in the sample (Padmini & Venmathi, 2012).

## Results

Although the nature and extent of STIs/HIV related to employment in the RMG industry differ between countries, however, it is apparent that FGWs in LMIC are the utmost distressed by the unsafe nature and unhygienic of their workplace situations (Kabir, Maple, Usher, & Islam, 2019). According to Chen et al, factory workers in LMIC are vulnerable to HIV transmission (D. Chen et al., 2020). Numerous factors influence the susceptibility of garment factory workers to HIV. This group is sexually active and had inadequate education (D. Chen et al., 2020; McFarland et al., 1999). In LMIC, behavioral interventions and health education have played a vital role in the prevention of HIV (D. Chen et al., 2020).

Specific countries of LMIC (such as Bangladesh, Cambodia, Congo, Egypt, India, Lesotho, Nepal, Sri Lanka, Ivory Coast, and Zaire) can be measured as the leading RMG product exporters globally; predominantly because of low wages and existing labor, easy technology and no prior skills required for the work, and also the absence of substitute job prospects, particularly for women (Kabir et al., 2019). Whereas low-cost occupation accessibility is imperative and employers tend to reduce production expenses of garment stock, therefore they can be competitive at the same time invite international buyers. Therefore, a lesser amount of cash is financed in providing a safe working environment for the RMG industry, which ultimately creates the FGWs health vulnerable (Akram, 2014).

This critical review concentrates on understandings workplace situations and the impact of these situations on FGWs health, particularly their personal understandings of STIs/HIV. Thus, this critical review tried to deliver an outline of the accessible evidence on STIs and HIV susceptibilities of FGWs in selected LMIC. FGWs are frequently influenced by numerous types of infections, chiefly

due to unhygienic workstation settings (Akram, 2014; Y.-X. Chen, Gao, Cheng, & Li, 2017). FGWs were diagnosed as acquiring numerous health problems, such as fevers, coughs, jaundice, musculoskeletal, problems kidney failure, respiratory difficulties, and STIs and HIV (Ahmed & Raihan, 2014; Lombardo, Vijitha de Silva, Lipscomb, & Østbye, 2012; Nishigaya, 2002; Paudyal et al., 2015; Saraswathi, Jagadish, Divakar, & Kishore, 2013) as a consequence of their occupation, and hence FGWs suffer sickness and become incompetent to remain at work (Kabir et al., 2019). Infections with STIs increase the chance of spreading HIV. Effective treatment of STIs is one of the proven methods of preventing HIV (Hossain, Mani, Sidik, Shahar, & Islam, 2014; M. M. Islam, Conigrave, Miah, & Kalam, 2010; Jonathan Mann, Daniel J. M. Tarantola, & Netter., 1993; Mondal, Hossain, & Rahman, 2008; Nusbaum, Wallace, Slatt, & Kondrad, 2004).

Atypically, a sound health environment for the FGWs would give an advantage to the employers and budget in the future. For instance, if FGWs do not fall sick, then they can continue to work through the whole year, which will escalate garment productions (Haque et al., 2008). Therefore, it is vital to understand the fundamental reasons for contracting STIs/HIV on FGWs, as comprehending these problems would help investigate an appropriate way to safeguard settings in workstations, which would not uncover the FGWs to STIs/HIV susceptibilities in the upcoming.

Many socio-economic and demographic issues have played a significant role in influencing HIV in selected LMIC. By conducting a systematic literature review, the following features retrieved by numerous authors:

The themes of the literature review are presented in summary format (alphabetic order) below:

- FGWs in Bangladesh
- FGWs in Cambodia
- FGWs in Congo
- FGWs in Egypt
- FGWs in India
- FGWs in Lesotho
- FGWs in Nepal
- FGWs in Sri Lanka
- FGWs in Ivory Coast
- FGWs in Zaire

### **Female Garment Workers in Bangladesh**

According to UNICEF, there is a risk of HIV infection that may infect the general population (Gourab et al., 2019). In Bangladesh garment factories, 90% of hers labor force are female, which placed the top in LMIC (M. S. Islam, Rakib, & Adnan, 2016). FGWs in Bangladesh often develop a social group by themselves as they live far away from their families in the metropolitan city of Dhaka (Sajeda, Ian, Ruchira, & Margaret, 1998). Consequently, these FGWs make decisions about their lives that do not necessarily follow traditional beliefs. This includes marrying at an older age, choosing a sexual lifestyle that competes with men, and working alongside the latter (Sajeda et al., 1998). During adolescent years most of the FGWs start working in the garment industries while being single (Huq, Haseen, Quaiyum, Nahar, & Larson, 2005), which includes a transition time that involves sexual growth (O'Sullivan & Brooks-Gunn, 2005). These FGWs grow into their maturity in the garment industry as they work, which is a contrast atmosphere than what their mothers experienced at that age (Sajeda et al., 1998). Lack of knowledge about safe sex practice, risk of contracting STIs and HIV, multiple sex partners, and having STIs without the understanding of having it, recognized in Bangladeshi FGWs (Rianon et al., 2009). Major causes of STIs/HIV susceptibility of FGWs are drug abuse, rape violence, gender inequality, and multiple sex partners, unaware of contraceptive use (Mahmood, 2019; Mondal, Islam, Rahman, Rahman, & Hoque, 2012; Sayem, 2010). According to Paul and others, many illnesses and diseases are more prevalent among female workers than among their male counterparts (Paul-Majumder, Zohir, Begum, Mahmud, & Anwara, 1999). Around 40% of FGWs diseases and illnesses, as opposed to 33% for male workers, do not receive any treatment (Paul-Majumder, 1998).

### **Female Garment Workers in Cambodia**

Cambodian FGWs exposed to HIV. In one study, it was revealed that FGWs have been involved in sex with multiple partners' through openly as commercial sex professionals and establish that these FGWs are endangered to HIV risk. Low socioeconomic strata (low education and factory wage and dependency in rural homes) and responsibilities as offspring to support the family which forces them to enter into sex work. As FGWs, they find themselves powerless in new surroundings with hardly any social backing.

Constant condom use is not common when partners are recognized as 'sweethearts'. These figures specify that the FGWs are already unprotected at the risk of contracting HIV/AIDS. FGWs are thus subjected to the risk of this scourge (Nishigaya, 2002).

Another research described that a few migrants FGWs engaged in sex work with local men to supplement their income (G. Webber et al., 2010).

In the capital of Cambodia, Phnom Penh, the majority of these FGWs are rural-to-urban migrant women, aged range 18 to 25 (Care Cambodia, 2006; G. Webber et al., 2010). It is documented that the context of women's lives has an enormous impact on their vulnerability to HIV (G. Webber et al., 2010). Traditionally, approaches to sexual and HIV research, which have relied on surveys and focused on behavioral risks, have been inadequate to explore the wider social, cultural, economic, and political factors which can shape sexual experiences and HIV risk (Parker & Aggleton, 2007). When the FGWs leave the support and control of their parents and their communities, they are left with large social support networks. While other female colleagues fill this gap, for some FGWs, their newfound friends may encourage them to pursue sexual relationships with local men, according to this study. This social vulnerability is amplified by loneliness and the absence of family restrictions (G. Webber et al., 2010).

#### **Female Garment Workers in Congo**

The Democratic Republic of Congo has been witnessing a grave economic situation for many years, resultant in a favorable setting for the spread of HIV infection. This study was performed in Kinshasa state in a large garment factory to define the prevalence and incidence of HIV infection among employees and their spouses. Despite the economic instability and deterioration of health services in Kinshasa, HIV prevalence and incidence rates in this garment factory were lower than rates observed in garment factories in the same East and Southern African countries (Mayala et al., 2001).

#### **Female Garment Workers in Egypt**

The authors revealed that compared with garment workers, tourism workers had a considerably better perception of the magnitude of the global HIV/AIDS situation as well as in Egypt and of the probability of

the situation deteriorating. About 46% of garment workers believe that HIV is transmitted by casual contact. Fears and anxieties have led some HIV+ workers to quit their works rather than risk the disgrace of being removed by colleagues or employers (Bharat, Aggleton, & Tyrer, 2001). In Egyptian society, behavior change is an accepted part of religious and social norms, which restrain extramarital sexual relations (El-Sayed et al., 1996). Early action is vital to avoid serious impact on monetary activity and future markets, even in countries where the prevalence of HIV is low, for example, Egypt. Such response includes actions to protect the community outreach activities, philanthropy, and workforce (Daly, 2000).

#### **Female Garment Workers in India**

The author defines the evaluation RMG industry cantered on intervention to indorse gender equity. Four operations were included in the intervention; these are concentrated on gender and violence against women, sexual and reproductive health, alcoholism, and HIV/AIDS, which were used by means of interactive methods and information displays. Information on socio-demographic features and gender equity alcohol use and IPV evaluated, and dissimilarities in these variables related to the intervention were scrutinized (Krishnan, Gambhir, Luecke, & Jagannathan, 2016).

One research establishes that partial knowledge about HIV/AIDS and general misconceptions about HIV transmission found FGWs in all sectors. Condom use was understood to be low among FGWs due to the absence of awareness about STIs/HIV. Access to condoms was limited in the neighborhood of the workstation, and the perception of practicing condoms other causes (Halli et al., 2009).

Another study mentioned FGWs working in garment factories were not receiving intensive intervention though they were at risk of contracting HIV. The FGWs in the garment factories may be involved in risky activities for HIV/STIs, which could be the reason behind the higher HIV data than national data. These FGWs may not want to disclose their risk behaviors due to stigma or losing their jobs at their work stations due to lack of awareness, and thus FGWs may not feel comfortable utilizing these services. The other intention is that their husbands/partners may have numerous sex partners and are

already HIV+, and would transfer HIV to their spouses, which replicates complex STI and HIV positivity (Desai, Kosambiya, Mulla, Verma, & Patel, 2013; Saraswathi et al., 2013).

### **Female Garment Workers in Lesotho, Madagascar, and South Africa**

According to one study, Lesotho national female garment workers had a higher HIV prevalence than other populations in the country (D. Chen et al., 2020; Mabathoana, Van Wyk, & Adefuye, 2019). Among FGWs in Lesotho, that rate rises to 40% and 30% incidence of HIV/AIDS at the national level (Nora J. Kenworthy, 2014). The original RMG industry producers were mostly Taiwanese immigrants, who were functioning factories in South Africa, and after escalating wages in Taiwan, these immigrants moved to Lesotho (Hart, 2002).

A previous study revealed that HIV prevalence among FGWs was 41% RMG industry (35.6% male and 44.2% female) (Stoebenau et al., 2011). In Lesotho, the practice of parallel and numerous partnerships is also very high, aggravating susceptibilities to HIV (Stoebenau et al., 2011). One study revealed that in 2007, one garment industry employed 47,040 garment workers, of whom 16,000 were HIV positive (Dodoo, Zulu, & Ezeh, 2007).

A 2008 study (Makoe & Mokomane, 2008) of Lesotho garment workers' vulnerability to HIV transmission reports that low wages, migrant status, and gender inequities are major drivers of women's vulnerability to HIV infection. In another study, the authors argued that true empowerment necessitates vital resources and individual and collective participation, mainly for the females, who are more at risk than males (Tanga & Tangwe, 2014).

### **Female Garment Workers in Nepal**

The RMG industry in the Kathmandu Valley of Nepal involved enormous numbers of young populations from rural to work at RMG industries (Commission, 1992). Over two-third of the FGWs in garment factories are under the age of 24, and mostly they are illiterate, or their level of education is low (Puri & Cleland, 2006). Most of these FGWs come to the city alone by their parents and/or guardians and accommodate themselves in hostels, which are mixed in gender. Open to a broad choice of social nets, activities, and concepts that may dramatically change their lifestyles (Decosas, Kane, Anarfi, Sodji,

& Wagner, 1995; Ford & Kittisuksathit, 1996; HIV/AIDS, 2008).

As these young FGWs experience feelings of loneliness due far from their spouse, families, friends, and villages, which may direct them to use the drug and engage in a pre-marital sexual relationship that sets these population at vulnerable to STIs/HIV (HIV/AIDS, 2008; Poudel et al., 2003; Puri & Cleland, 2006; N. Sharma, 2003; Tamang, 2001). Research showed that people coming from rural to the city regularly engage in pre-marital sexual relationships that possibly would not have occurred in need of migration (Guest, 2000).

Multiple sexual partners, early sexual involvement, and low condom use are the main factors. Examples of sexual harassment by employers and supervisors were also recognized. Occasional (non-regular) sex companions are labeled as friends from a similar community or garment factory. Regardless of their behavior, which was found to be at high risk, moderately few FGWs measured themselves to be in danger of contracting STIs/ HIV/AIDS. Information on the potential concerns of risky sex is insufficient. The study concluded that significant amounts of FGWs were involved in unsafe sexual behavior due to a lack of knowledge (Karki, 2014; Puri & Cleland, 2006).

### **Female Garment Workers in Sri Lanka**

Enormous numbers of women became FGWs in Colombo, the capital city of Sri Lanka in the close to Free Trade Zone (FTZs) in 1978, and employs approximately 100,000, of which nearly 70,000 are women in the RMG industry. Over the years, several sociological studies and journalistic reports have stated high cases of female sex workers, rape, STIs, premarital sex, abortions, and sexual violence of these FGWs, who live close to the FTZs. Numerous Sinhala-language teledramas have depicted a parallel picture, and the outcome has been general fear about the sexual behavior of these FGWs. The huge mainstream female workers (mostly from rural) of FTZ work in the RMG industry, and these FGWs are called by the derogatory term 'Juki girls', also known as 'Women City'. The nickname has solid consequences of sexual vicinity, and the status of FGWs, who are not married, is unfortunate that wedding offers in newspapers regularly mention "no garment girls" (Lynch, 2000: Women, 1983 #2659).

### Female Garment Workers in Ivory Coast

Abidjan, the capital city of the Ivory Coast, is the main commercial and industrial city. The direct and indirect costs of HIV/AIDS were recognized and evaluated in the 1990s in garment factories of 1150. The data obtained with the support of factory directors, physicians, supervisors, and FGWs. Total expenses are estimated based on the number of workers infected by HIV, which is notified by factory physicians. Investigation of the expenses established that this disease influences in changed manners in the many RMG industries, and the part of those items obtaining the maximum expenses differs among garment factories. Illness; not the mortality of FGWs expenses all of the majority's issues (Aventin & Huard, 1997).

### Female Garment Workers in Zaire

African workforce. During 1987 and 1988, this research registered 7068 male workers, 416 female workers, and 4548 female spouses of employees in two large business localities (an RMG industry and a profitable bank). The research stated that the HIV prevalence rate was higher among male workers (6%) and their spouses (6%) at the bank than among male workers (3%) and their spouses (3%) at the garment factory. HIV/AIDS was the most common fatality source among employed workers 20%, and 24% of all deaths in the RMG industry and the profitable bank, respectively. The HIV prevalence rate was greater among FGWs (8%) than among the spouses of male workers (4%) (Ryder et al., 1990).

## Discussion

### Condom Use

AIDS control and prevention activities should incorporate prevention of STIs, treatment, and detection. In **Zaire**, it was suggested to promote condom use among these people, who continue to be sexually active regardless of being made aware of their risky behavior is also warranted. The traditional unprotected sexual activity, which placed these people in danger of this virus (Ryder et al., 1990). Similarly, in **Cambodia**, it revealed that despite having knowledge of HIV and risky sexual behavior, there were major barriers to condom use among women. Condoms related to lack of partner trust and fear the partner would assume they had infections/diseases or were unfaithful, and concern about losing the relationship (G. C. Webber et al., 2010). In **Bangladesh**, the understanding use of

condoms, such as protection from STIs and HIV, etc. literature established that majority workers had no idea about the uses of condoms (Sharmin, Mohdlsa, & Manan, 2014). In **India**, condom use is understood to be low among FGWs (Halli et al., 2009). Low condom use among FGWs was also found in **Nepal** (Karki, 2014; Puri & Cleland, 2006)

### Sexual Behavior and Migrant Workers

In **Lesotho**, monetary deprivation is documented as a vital key in spreading HIV and unsafe sexual behavior and, hence, it may be determined that poverty complexes susceptibility to HIV and that its influence manipulated in the city than in rural areas' (Dodoo et al., 2007). The migrants mentioned in this paper are the migrants, who are internal and moved from rural to city/towns, in quest of monetary prospects, and those who receive jobs in the RMG industry. Education programs on health highlighted the accountabilities of FGWs to handle their own health and safeguard themselves against this scourge (Nora J Kenworthy, 2013). Furthermore, in **Nepal**, the educational status shows a positive association with their attitude, and for a particular group, it is essential to have basic knowledge on HIV/AIDS (Karki, 2014). The goal of prevention of STIs/ HIV and the risk of STIs/HIV in these FGWs was emphasized in the past to increase awareness, which demonstrates an obvious need for health education in **Bangladesh** (Rianon et al., 2009). In **Bangladesh**, the risk behaviors, for instance, drug abuse, multiple sex partners, and low use of condoms, were also prevalent in FGWs (Mahmood, 2019; Sayem, 2010). In this regard, the **Bangladesh** Garment Manufacturers and Exporters Association (BGMEA) is encouraging urban factories (more than one-third) to move out of the cities, and more RMG industries along with the migrants working women will be moving into rural areas (Schoen, 2019). In **Lesotho** due to expatriates, often with inadequate management experience and associated cultural and language barriers, limit skills transfer and learning of FGWs (Lall, 2005). Learning is inadequate by the unwillingness and reluctance of garment owners' to train and educate FGWs where the country has a high rate of HIV/AIDS deaths (Staritz & Morris, 2013). Another study in **Lesotho** recommended that opportunities provided by monetary empowerment have given the FGWs a novel community sense for their condition and a consciousness about their status in power relations (Tanga & Tangwe, 2014). Studies in **Nepal**, which

were conducted in neighboring nations, demonstrate that monetary movement and migration can create individuals more susceptible to HIV/STIs (Decosas et al., 1995; Ford & Kittisuksathit, 1996; HIV/AIDS, 2008). In **Cambodia**, society's gender-norms significantly impacted sexual behavior and condom use (Marston & King, 2006). According to **Egypt**, risky sexual behavior is prevalent among FGWs, and intervention should be given to inspire them to accept preventive and protective measures and prevent the stigmatization and discrimination associated with STIs/HIV (El Sayyed, Kabbash, & El Guenedy, 2008). According to **Sri-Lanka**, protecting FGWs' sexual behavior (Buddhism/religion) becomes one dominant technique to safeguard the nation (Lynch, 2000). Another study observes that there is a similar to a study in **Tanzania**. In comparing the knowledge and awareness about STIs, it showed that 17% of adolescents in **Bangladesh** had never heard of STIs; **Indians** and **Nepalese** reported 37% and 25%, respectively (Hossain et al., 2014). School-based educational programs in **India** have been successful despite early opposition. A vigorous campaign to inform truck drivers and sex workers of the risk of unprotected sex and the provision of condoms successfully reduced the risk of infection in **Nepal**. Improved treatment of STIs decreased HIV infection in **Tanzania**. Possibly, religious and social restrictions in sexual practices and some other factors may impede the rapid spread of the disease in **Bangladesh** (M. Islam, Mitra, Mian, & Vermund, 1999).

UNAIDS states that women and girls from poor socio-economic families have a risk of being susceptible to HIV infection than their wealthier counterparts. Furthermore, the migration of these workers from rural to urban areas has amplified their susceptibility to HIV infection, owing to the likelihood of their having sex with people other than their partners (Tanga & Tangwe, 2014).

### Power Dynamics

In **Cambodia**, the danger of HIV infection must comprehend in the operational setting and comparative absence of power that shapes the situations of FGWs. It creates the compound interrelationships between social explanations of understanding, power, faith, and monetary safety that assemble sexual relations and the danger of HIV/AIDS (Nishigaya, 2002). This also portrays

migrant women move from their society of origin to their destination. In other words, shifting in the power dynamics of sexual and non-sexual relations, community influences, and the operational setting of the destination could hypothetically influence HIV prevention in FGWs (G. Webber et al., 2010).

### IPV/WPV vs Workplace Intervention

Analyses of data revealed considerable, noteworthy progress to gender equity (attitudes), awareness of IPV, the unacceptability of IPV, also alcohol-related support services in **India** (Krishnan et al., 2016). Analyses of data revealed considerable; statistically significant progresses in attitudes related to gender equity, awareness of IPV, the unacceptability of IPV, and alcohol-related support services. One intervention pilot demonstrates the acceptability, feasibility, and effectiveness of workplace-based interventions to positively influence attitudes towards gender equity, IPV, and alcohol use and increase awareness of IPV and alcohol-related support services. Workplace interventions are gradually being accepted as beneficial for both employees and employers (Baicker, Cutler, & Song, 2010). The study-maintained repetition and scale-up of this intervention in workstations over all **India** proposes an encouraging technique to educating gender equity and health. Henceforth, in the future, a key step on workstation interventions could be the measure of understandings on STIs/HIV/AIDS needs to be increased (Halli et al., 2009). According to Desai, due to long duty hours and busy schedules, FGWs in **India** cannot utilize intervention services, which are mostly offered throughout office hours. Therefore, a 'special group intervention' is compulsory, which could grow their self-confidence and work with them (Desai et al., 2013). According to **Bangladesh** perspective, It was also suggested that numerous initiative of comprehensive education and training regarding risky behavior among this group should be taken with the help of government sectors, enterprises, NGOs and civil society, and policymakers to combat STIs/HIV problems among FGWs (Mohd Hajaraih et al., 2019; Mondal et al., 2008). IPV is similarly documented to influence FGWs' productivity in their job (Crowne et al., 2011; Gupta et al., 2018). According to a study from **India**, any intervention program should address these issues (Halli et al., 2009). Therefore, in **India** and other LMIC, the effectiveness of workplace-based interventions in progressing gender equity is necessary (Krishnan et al., 2016). In **Cambodia**,

health education programs and access to health care services were limited due to factory restrictions. (G. Webber et al., 2010).

HIV/AIDS prevention and workplace-based intervention programs that are socio-economically and culturally tailored to the FGWs are urgently needed. Important recommendations can be taken from the contemporary understanding of these FGWs. These interventions should include sessions that are intended to instruct FGWs on how to deal with various barriers to access to health services in cities. According to Gourab et al. (2019), the authors observed that with past findings in key populations (KP), constituted by the commercial sex workers, men who have sex with men (MSM) and injecting drug users (IDUs) in **Bangladesh** demonstrate a lack of willingness to visit public healthcare facilities in order to avail STIs and HIV services. Nevertheless, the authors discovered that none of the studies that have been conducted in LMIC have stated that KP communities undergo satisfying experiences when they visit health services/clinics/hospitals (Gourab et al., 2019).

#### **Ethnographical Investigation and Methodology**

Programs, which concentrated on a campaign of safe sex exercise that supports communication and application of the facilities, would aim at those susceptible populations. According to Puri from **Nepal**, a further ethnographical investigation will be essential to apprehend FGWs' own distinct difficulties in decreasing FGWs risky behavior and consumption of the facilities (Puri & Cleland, 2006). Comparative potential studies using a similar methodology are also needed to understand better the reasons for these variances (Mayala et al., 2001). According to **Congo**, potential comparative studies using a similar methodology are needed to understand better the reasons for these variances (Mayala et al., 2001).

#### **FGWs and Susceptible to Health Issues**

FGWs of LMIC are susceptible to numerous health issues, including both physical and psychological in **Bangladesh** as well as in LMIC (Kabir et al., 2019; Mohd Hajaraih et al., 2019). Per se, it is not identified about the complete magnitude of the susceptibilities confronted by these FGWs in LMIC. FGWs workers in **Bangladesh** face incomparable difficulties due to their susceptibilities are extremely reconciled (Kabir et al., 2019), including STIs and HIV.

#### **Labor Law**

In **Lesotho**, a number of changes were made, for example, the Labor law Code Amendment Act in 2006, which started provisions on HIV/AIDS and moved jurisdiction for explicit classes of employment disputes from the Labor Appeals Court to the Labor Court (Irene, 2014). According to **Lesotho** policy, these LMIC should follow the same Labor Code Amendment, which can ease employment disputes. Moreover, Morshed specifies the important role of **Cambodian** labor unions in the RMG industries and as the mediator's between FGWs and garment factory owners' to discourse wages and settle disputes (Morshed, 2007; Muhammad, 2012).

The ILO is in favor of labor rights and safety and health convention (Kabir et al., 2019; V. Sharma, 2015). Yet, this research advocates that such guidelines are not implemented in LMIC, where RMG industries are situated. Hence, there is a slight assurance of safeguard garment workers' rights and privileges (Kabir et al., 2019). In the case of **Bangladesh**, limited research was conducted on labor rights and safety at work in line with this declaration of the ILO (Akhter, Rutherford, & Chu, 2019).

#### **Reducing Poverty and Sex Education**

An NGO called HER project, and their effort was to confronting violence against FGWs. This mission indorses workstation curriculums in 11 selected LMIC that indorse health, financial support, and gender equality among low-income women, including FGWs (Yeager & Goldenberg, 2012). The organization's curriculums have affectedly impacted the recipients' action, awareness, and health-seeking behavior, with the better frequency of health clinics visits, better frequency of the use of family planning goods, and different understandings on prevention of STIs/HIV in FGWs in LMIC (Mohd Hajaraih et al., 2019)

#### **FGWs and Susceptible to Health Issues**

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### *Improved Documentation and Investigation of Health Consequences*

Tackling the health requirements of FGWs is a foremost women's health problem in LMIC. Conclusions propose the need for improved documentation and investigation of health consequences linked with FGWs to discourse health threats in LMIC. The most serious conditions that employers, administration, investigators, and policymakers in LMIC need to work together, which can increase women's health generally (Mohd Hajaraih et al., 2019), especially their STIs and HIV issue.

As garment workers are prodigiously female, focusing on the STIs/HIV susceptibility of FGWs can improve women's health generally. Given the contrasting outcomes available in English, better documentation of the health of FGWs compares to the general population is needed. The lack of data on this topic creates it challenging, especially when recommending interventions for these FGWs.

One study demonstrated that numerous HIV interventions were effective in improving HIV knowledge and decreasing HIV-related high-risk behaviors among FGWs in LMIC. The effectiveness and the combination of multiple interventions could achieve better outcomes instead of a single intervention. Persistent combination interventions are vital to discourse HIV in the LMIC population. The usefulness of smart devices-based interventions and multimedia is necessary and to be examined in the future (D. Chen et al., 2020).

According to same systematic review recognized five types of interventions that addressed low HIV knowledge, high-risk behaviors of HIV infections, high HIV stigma, and low counseling and testing (HCT) uptake among FGWs in LMIC, that is: (1) educational intervention, (2) peer education, (3) community intervention, (4) lottery intervention and (5) policy intervention (D. Chen et al., 2020).

Furthermore, research may center on identifying and understandings the work-related causes that promote the health conditions (Mohd Hajaraih et al., 2019), especially STIs/HIV of the FGWs.

### **Strengths and limitations**

Just similar to other critical reviews, this research article has intrinsic limitations. Firstly, this research did not include research papers, which were

available before July 1988. Secondly, this research only incorporated FGWs susceptibility to STIs and HIV issues and general disenfranchised, comprising within the location in which FGWs work. Thirdly, this research only incorporated articles published in English while taking a realistic understanding of the author's language limitations as well as acquiring high-quality peer-reviewed articles. Fourthly, the mainstream of the research mostly concentrated on FGWs' STIs/ HIV susceptibilities. Hence, the results of this systematic review could be comparable or dissimilar for male garment workers. It is also not well defined whether male garment workers are less susceptible to STIs/HIV susceptibilities or the presence of FGWs is exclusively due to the higher percentage of women working in this industry (Fitch, Villanueva, Quadir, Sagiraju, & Alamgir, 2015). Lastly, this systematic review failed to uncover any research covering solely STIs and/or HIV modules (Kabir et al., 2019).

The aforementioned limitations are alleviated by numerous strengths. Firstly, due to the limitation of the search to only in English and publications, which retrieved from the inclusion countries, hence establishing that at any rate, few investigators and teachers were able to document their investigation in English language journals, while English is not their first language and encompassing the argument about this important area beyond the national discussion. Secondly, the records, which were explored, had a wide-ranging range, and hence it is expected that relevant articles were not bypassed as this review also included secondary data and research review papers and reports. Thirdly, the mainstream of the research concentrated on FGWs. This is replicated in the workforce in virtually all of the selected LMIC from which this research described were also primarily female. Fourthly, this systematic review focused solely on the STIs/HIV susceptibilities that the FGWs confronted and exposed the causes of STI/ HIV susceptibilities.

Furthermore, STIs/HIV from different country viewpoints described so that FGWs STI/HIV susceptibilities of one country can be likened with other countries. Lastly, it can be claimed (on the origin of the explored databases) that there is no further systematic review has been carried out investigating RMG worker's susceptibilities on STIs/HIV in selected LMIC. Hence, this article may inspire the upcoming investigators to perform more

research in this arena, mainly in those nations not yet represented in this research paper. In addition to this, the search can be broadened to other industries: for example, textiles, spinning, brick, baking, tannery, etc. and explore susceptibilities (for instance, home versus work) connected to the nature of the industry work they are engaged in (Kabir et al., 2019).

### Future direction

As the mainstream of the research, to date has ( $n=15$ ) operated a quantitative approach, this systematic review recommends conducting more research on STIs/HIV susceptibilities using a mixed-method and/or qualitative approach (Fitch et al., 2015). Therefore, more qualitative research should be carried out not only in Bangladesh as well as other selected LMIC settings in the upcoming, given the propagation of this area in these countries for the last two decades, which also creates unique STIs/HIV susceptibilities for FGWs.

## Conclusion

This systematic review of 25 studies reflected the existing data in STIs/HIV vulnerability among FGWs in selected LMIC and established that illiteracy problems were the predominant health result studied.

In conclusion, condom promotion and their knowledge on health (both physical and psychological), labor rights and sexual behavior, sexuality and reproduction, and prevention of IPV/WPV through media and workplace intervention is essential. It suggested that comparative potential studies between selected LMIC using a similar methodology could be explored to apprehend greater reasons for these differences. The government and business sector, investigators, and policymakers need to work together. In addition, donor involvement and intercountry and regional linkages, and improved documentation and investigation of health consequences need to be implemented in these selected LMIC so that “best practice” can be performed. Furthermore, any change for the better should always be welcome so that gender equity human rights can be upheld.

HIV is increasing along the gradients of power continuously constructed as well as reconstructed by extensive economic, political, and social influences

(Farmer, 2001). Mr. Al Gore, former vice president of the USA, once mentioned in 2004, “*We hope that justice, not power, can be supplanted suppression*”. As Lincoln said in his greatest trial, “*We, even we here, hold power and bear the responsibility*” (Mahmood, 2005, 2020). As we honor Martin Luther King’s influence on American society and his enduring impact on social justice. Dr. King once said that “*injustice anywhere is a threat to justice everywhere*” (Christina Quint, 2020; Mahmood, 2020), and now more than ever, we must turn to right one of the greatest social injustices of our time: empowering women. In this connection, the statement of late Jonathan Mann is very pertinent. He said, “*For AIDS to be conquered anywhere; it must be conquered everywhere*” (Choudhury MR, 1996; Mahmood, 2007, 2020). Hence, these disenfranchised, disadvantaged, vulnerable poor, and/or powerless FGWs are exposed to HIV than before and establish that these FGWs are susceptible to HIV risk, created along the gradients of power.

It is important to know how and where health and survival under threat may emerge in this changing world, particularly in Eastern Hemisphere. The first challenge is exploring where to investigate and uncover impending harm to populations wherever the signs of trouble continue. It is imperative to know whether the health threat is real or just worrisome. In addition, must make an effort to mitigate harm and improve the health of populations (Freeman & Robbins, 2017), especially the population of FGWs in selected LMIC.

Creating awareness through media among these illiterate FGWs can bring back social norms, ethical, and religious values (social change), and in the end, FGWs can be educated, and gender equality can be sustained in the LMIC population. The HIV pandemic requires all LMIC to consider not just the effects on the health of populations but also the profound impact on the rights of people, especially the FGWs (Choudhury MR, 1997). Changing our society through public awareness, social policy researches, escalating funding, community education, ethics, and creating the HIV/AIDS communication policy in all LMIC. Greater determinations need to be created in praise of human rights and universal access to healthcare (Mahmood, 2011).

There are numerous answers to reducing FGWs' susceptibility to STIs/HIV emphasized in selected LMIC. Firstly, availability of skilled medical physicians in the RMG industries locations and providing essential medications free of cost. Secondly, adapting consistent meetings between supervisors and FGWs about health-related issues and mandatory STI/HIV-related training before the beginning of the occupation. Thirdly, giving average wages guaranteed. Finally, safeguarding a decent and comfortable working environment (Kabir et al., 2019). Urban factories can be moved out of the cities; hence, the chances of susceptibility to STIs/HIV may decrease. International research organizations in selected LMIC should include research on FGWs' health being, including STI/HIV. Owners' of the garment factory and government should take-up an improved accommodation facility for FGWs so that women worker's life can be healthy and secured. FGWs should also have access to STIs and HIV treatment, and health care services from public healthcare facilities.

Over time, the role of trades in society has altered. The first corporations recognized in Europe around the 16th century. There has always been a continuous power shift between corporations and governments. The garment industry has played an important role in this global industrialization and expansion process (Magendans, 2014).

The HIV pandemic is changing the balance of power at the global level. Therefore, the world is going into a major shift in power relations. However, the spread and exchange of scientific information may be possible, leading to faster-solving problems. For empowering FGWs, health education/workplace intervention is crucial, comprising prevention of sexual harassment, WPV, IPV-related training by government sectors, non-government organizations (NGOs), and civil society. A good surveillance system on key populations, comprising FGWs population and a good public health system in every country is going to be absolutely a key and act very fast for prevention of STIs and HIV on FGWs-structured along the gradients of power, and contribute to guide policymakers and researchers for new innovation and improve FGWs overall health in selected LIMC.

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#### Author Biography

Shakeel Mahmood is Ph.D. Candidate, HDR Representative of School of Humanities and Social Science, and Student Board Member of the College of Human and Social Futures, University of Newcastle, Callaghan NSW 2308, Australia.

#### Supplementary Data

Available in [appendix](#).

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