Deliverable 3.

**Comparative Analysis of Sexually Transmitted Infections Management Strategies in the Republic of Korea, Vietnam, Cambodia, and Indonesia**

# Abstract

**Introduction:** The disease burden of sexually transmitted infections (STIs) is a priority concern in Southeast Asia. A comparative understanding of infectious disease prevention among countries is necessary to learn and revise evidence-based STI health policies. This study aimed to scrutinize the STI policies among four countries, as well as the standardization of the Republic of Korea’s STI progress in policies and practices.

**Methods:** This study utilized a qualitative approach combining literature review and interviews to identify health policies on STI prevention in the Republic of Korea, Cambodia, Indonesia, and Vietnam. A qualitative scoping review on STIs for the last 10 years (2012–2024) and interviews of 25 government officers in STI sectors as a focused group were performed.

**Results:** The primary STIs of concern were syphilis, gonorrhea, and chlamydia, with risk factors including age, education level, number of sexual partners, condom use, and alcohol use. However, hepatitis B and C were included in studies in Indonesia. Moreover, the interview highlighted various socio-cultural barriers, including limited access to condoms due to physical, psychosocial, and financial factors, as well as the gender inequality-driven right to condom use during sexual activities.

**Conclusion:** This review of the STI policies of four countries demonstrates the importance of preventive strategies appropriate to the countries based on their readiness for health policy enforcement as well as community awareness. Efficiency in preventive intervention should be prioritized to guarantee the implementation’s sustainability.

**Keywords:** Sexually transmitted infections, risk factors, condom, prevention,

# Introduction

Globally, the disease burden of sexually transmitted infections (STIs) continues to increase despite the United Nations’ integrated efforts from the Millennium Development Goals to the current Sustainable Development Goals.1 Among the six World Health Organization (WHO) regions, Southeast Asia has the highest STI burden, reporting several million incidences annually.1,2 WHO aims to decrease the incidence rate of STIs by 90% in 2030. However, the accessibility of diagnosis and treatment among low- and middle-income countries aggravates the STI burden, impacting socio-economic costs on the control of STI spread.1

Southeast Asia has various socio-economic backgrounds and cultural and religious diversity, which impact disease burden across different demographics.1,3 Recent studies have demonstrated a strong link between STI prevalence and rapid urbanization, economic development, social change involving adopting other countries’ undesirable practices, and the lack of STI risks.4-7,10-13,15-19 Reports are available on the increase in STIs in Vietnam4-8 and Indonesia due to economic growth,10-13, whereas Cambodia reports a low rate of STI screening among entertainment workers.15-19 Therefore, strengthening public health infrastructure and practical STI management are more challenging.1 The Republic of Korea leverages strong legislation, information technology, and advanced diagnostic practices to control STIs.21-25 It manages STIs under the Infectious Disease Control and Prevention Act26 as well as other Acts such as the Food Sanitation Act26 and Protection of Children and Youth against Sex Offenses.26 Eight STIs are classified as Classes 3 and 4 infectious diseases and designated private clinics, hospitals, and public health centers are obligated to report them.27 High-risk groups for STIs are recommended to take quarterly or annual tests according to the STI type, and the STI management guidelines are updated with collaboration between the Korea Disease Control and Prevention Agency and Korea Medical Academic Associations.28

According to WHO guidelines, health systems comprise governance, service delivery systems, healthcare personnel, essential medicines and equipment, health financing, and health information systems. Each country is affected by its social, economic, political, and historical systems, as well as its democratic status. Therefore, STI policy revision and preventive interventions should be carefully evaluated based on the country’s level of development. Hence, it is necessary to understand whether similar or dissimilar STI prevention approaches exist across nations.

# This study aimed to compare the STI management policy among the Republic of Korea, Vietnam, Cambodia, and Indonesia, as well as assess the standardization of the Republic of Korea’s STI progress in policies and practices.

# Methods

Design and setting:

This qualitative literature review and focus group interview aimed to identify the STI policies of the Republic of Korea, Vietnam, Indonesia, and Cambodia, as well as relevant articles published on areas to be improved in preventing STIs.

Sample:

Before this practicum course, four countries were selected through discussions with the preceptor to confirm the agreement.

Intervention:

The study focused on the literature review of the four selected countries rather than on implementing any health education program.

Data collection:

Data for the scoping review focusing on the four selected countries was collected between May 27, 2024, and June 21, 2024. Health officers from the four selected countries were interviewed between June 17, 2024, and July 5, 2024, using a Zoom meeting to understand better the barriers to preventing STIs.

Data measurement and analysis:

The extracted data was analyzed to compare the STI management policies among the selected four countries.3-7 The analysis focused on categorizing studies by research design, reviewing study characteristics, and classifying measurement tools and key STI-related variables. Additionally, a comparative analysis using interviews was performed to evaluate STI management policies and outcomes, identifying areas for improvement and assessing the impact of socio-economic and cultural factors on STI prevalence and management.8

# Results

Search Results:

The Preferred Reporting Items for Systematic reviews and Meta-Analyses checklist was applied to enhance the reporting quality of the included reviews (81). Regarding the search strategy,1,2 we searched PubMed, MEDLINE, Embase, and the Cochrane Library for potential articles that were published between January 2012 and June 2024 in English from the four selected countries. Keywords were selected based on the Population, Interventions, Comparators, Outcomes, and Study designs framework. For populations, we used keywords such as “sexually transmitted infection,” “sexually transmitted diseases,” “homosexual,” “syphilis,” “gonorrhea,” “sexual workers,” “male service partner,” and “teenagers” (Medical subject heading terms). For interventions, keywords included “randomized controlled trial,” “survey,” “interview,” “qualitative,” “cross-sectional,” and “mixed method.” For comparators, we included “risk factors,” “health outcomes,” “treatment,” “quality of life,” “sexual behavior,” and “knowledge.” For outcomes, we used terms like “epidemiology or incidence,” “health education or behavior change,” and “community care service or vaccine campaign.”

We identified a total of 883 articles. After removing duplicates and excluding 213 articles that were not written in English, title and abstract screening was performed on 441 articles, of which 325 were excluded for not meeting the inclusion criteria (Figure 1). An additional 61 articles that did not provide full text were also excluded.

Records identified through database searching

***(n = 883)***

[PubMed-524, MEDLINE (Ovid)-15, Embase-24,

Cochrane library -19, Science direct -109]

**Identification**

Records retrieved

After removing duplicates

***(n* = 654)**

Excluded records:

Non-English, Combined with mental health disorders, related to adults

***(n=213)***

**Screening**

Records screened   
***(n* =441)**

Excluded records

- after reviewing the title & abstract

- abstract only available, case report

- Conferences article

***(n=325)***

Records assessed for

eligibility   
***(n* =142)**

**Eligibility**

Excluded records:

Full text not available

After reviewing full text

***(n* =*61*)**

**Included**

Studies included in data synthesis focusing on four countries ***(n* = 23)**

Figure 1. Flow diagram of the study selection process

The 61 selected studies were re-evaluated for eligibility, and those originating from the local areas of the four selected countries under review were included using the CABI database. The final analysis included a total of 23 studies from the Republic of Korea,1-6 Cambodia,7-13 Indonesia,14-19, and Vietnam20-23.

Characteristics of the selected articles:

The studies included in the final analysis varied in design, including nine cross-sectional studies,1,11,15-17,19,20,22,23-6 three qualitative studies,7,12,14 seven cohort studies,4,5,8,10,13,18,21 two review studies,3,6 one mixed study,2 and one randomized controlled study1 (Table 1). The age of the target population for studies in the Republic of Korea varied from adolescents to all ages. However, studies in Cambodia, Indonesia, and Vietnam targeted young adults aged 18–30 years.

Table 1. Characteristics of the articles

|  | **Author, Year**  **Country** | **Age** | **Design** | **N** | **STIs /STDs** | **Data Use** | **STI+** | **Risk factors** | **Primary Outcome** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Jung M  2017 ROK | ≥19 | Cross-sectional  (2008, 2014) | 1,083 (1st wave)  926 (2nd wave) | Syphilis, Gonorrhea | KAIDS survey, Interview, Blood and urine test | 38.2% | Age, Education, Number of customers, Condom use | STI prevalence after PST Act enforcement |
| 2 | Jung M  2019 ROK | ≥15 | Mixed | 832 FSWs | Syphilis  Gonorrhea  Chlamydia | 2014 KAIDS survey  Interview  Blood and urine test | 15% | Multiple partners;  alcohol use; unsafe sex;  early age, income | STI status |
| 3 | Lee K  2023 ROK | All ages | Review | Not specified | Chlamydia  Syphilis  Chancroid | Literature review  Expert consensus  Clinical guidelines | Chlamydia 2.4% | Untreated infections;  lack of poor diagnosis;  poor sexual health education | Management guidelines for non-gonococcal bacterial STIs |
| 4 | Choi JE  2022  ROK | All ages | Cohort Retrospective | 59,381 specimens | Candida albicans, Gardnerella vaginalis  Ureaplasma parvum  Treponema pallidum | Real-time multiplex PCR for STIs | 3.3%  (Males 0.8%  Females11.5%) | Female sex;  younger age;  type of specimen  (swabs had higher positive rates) | Analysis of C. albicans infection rates by age, sex, and specimen type using real-time PCR |

|  | **Author, Year**  **Country** | | | **Age** | | **Design** | | | **N** | | | **STIs /STDs** | | | **Data Use** | **STI+** | | **Risk factors** | | | **Primary Outcome** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | Lee SJ  2023  ROK | | | All ages | | Cohort Retrospective | | | 3,297 | | | Chlamydia  Gonorrhea  Mycoplasma genitalium | | | Multiplex PCR for STIs | 30.9% | | Younger age; female sex | | |  |
| 6 | Lee SJ  2024  ROK | | | All ages | | Review | | | NA | | | Mycoplasma genitalium infections | | | Literature review  National and International guidelines | NA | | High-risk sexual behaviors;  macrolide resistance | | | Updated treatment guidelines for Mycoplasma genitalium infections |
| 7 | Coupland H  2019  Cambodia | | | 25 | | Qualitative | | | 30 | | | Not specified | | | Grounded theory analysis | High | | Poverty; gender inequality; stigma; lack of income; structural barriers | | | STI prevalence |
| 8 | Evans JL  2023  Cambodia | | | NA | | Cohort Prospective | | | 1,198 | | | Not specified | | | Self-reported STI history measured quarterly | 26% at 18 months | | Alcohol use disorder,  Psychological distress,  Characteristics of sex work venue | | | Joint effects of alcohol on STI infection in FESW in 10 provinces |
| 9 | Brody C  2022  Cambodia | | | 18-30 | | Randomized Controlled Trial | | | 1,118 | | | Not specified | | | Repeated measures, Logistic regression | NA | | Psychological distress  Substance abuse  Poverty, Gender  Stigma, Criminalization | | | Efficacy of the mobile link intervention |
| 10 | Delvaux T  2023  Cambodia | | | 27 | | Cohort | | | 470 | | | Syphilis | | | National follow-up system | 71% | | Late antenatal care  Distance, partner support | | | Improved syphilis management in Maternal and child health services |
| 11 | Jary A  2023  Cambodia | | | 28 | | Cross-sectional | | | 162 | | | Human Papilloma Virus | | | Anal swabs, routine STI screening, PCR assays | 83% | | HIV infection, concurrent anal bacterial STIs | | | High prevalence of high-risk HPV and vaccination |
|  | **Author, Year**  **Country** | | **Age** | | | **Design** | | **N** | | **STIs /STDs** | | | **Data Use** | | | **STI+** | | **Risk factors** | **Primary Outcome** | | |
| 12 | Yang Y  2024  Cambodia | | 15-19 | | | Qualitative | | 91 | | NA | | | Face-to-face interview with thematic analysis | | | NA | | Social norms, cultural values, marital expectations | Perspectives on sex and marital duties | | |
| 13 | Ouk V  2023  Cambodia | | NA | | | Cohort | | 93 | | Neisseria Gonorrhea | | | Urethral specimens | | | 38% | | Presence of penA-60.001 allele | High ceftriaxone resistance in N. Gonorrhea | | |
| 14 | Fauk  2018  Indonesia | | 18≥ | | | Qualitative | | 42 | | STIs and HIV | | | One-on-one interview based on the Health Belief Model | | | NA | | Perceived risk, High cost of condoms, lack of access to condoms, Poor self-efficacy in condom use | Highlights the need for interventions to raise awareness and condom promotion | | |
| 15 | Wirawan  2022  Indonesia | | 18≥ | | | Cross-sectional | | 951 | | HIV | | | Self-administered survey | | | Not specified | | Younger age  Reduced access to condoms | Socio-economic impacts and changes in behavior among FSWs | | |
| 16 | Nilasari  2024  Indonesia | | 10-21 | | | Cross-sectional | | 259 | | Chlamydia, Syphilis, Gonorrhea, Hepatitis B and C, HIV | | | Collected through questionnaire interviews | | | Chlamydia 3 cases, Syphilis 1 case, Gonorrhea 1 case, Hepatitis B 6 cases, Hepatitis C 1 case, HIV 2 cases | | Condomless sex, Exposure to alcohol and drug use, Occupation such as shoe shiners, parking lot attendants | The strong relationship between the prevalence of STIs and low socio-cultural characteristics | | |
| 17 | Winarto  2023  Indonesia | | 15-49 | | | Cross-sectional | | 50 | | STIs knowledge, attitudes, and practices | | | Structured self-administered questionnaire | | | Not reported | | Education level, attitudes towards STIs | The level of good knowledge and attitudes do not relate to predicting actual practices on STI prevention | | |
|  | | **Author, Year**  **Country** | | | **Age** | | **Design** | **N** | | | **STIs /STDs** | | | **Data Use** | | | **STI+** | **Risk factors** | | **Primary Outcome** | |
| 18 | | Irawan  2023  Indonesia | | | NA | | Cohort | NA | | | Syphilis | | | Surveillance, Screening | | |  | High-risk population | | Syphilis incidence and control measure | |
| 19 | | Fatiah MS  2023  Indonesia | | | 15≥ | | Cross-sectional | 4,290 | | |  | | | Secondary data from the 2018-2019 Integrated Biological Behavioral Survey | | | Presence of STI symptoms | Circumcision, sex-buying and selling behavior, number of partners | | Understanding the relationship between circumcision and STI transmission among MSM | |
| 20 | | Son DT  2016  Vietnam | | | 15-49 | | Cross-sectional | 8,791 | | | STIs, HIV | | | Multiple Indicator Cluster Survey (2011) | | | - | Early sexual initiation, lower education, former marital status, ethnicity | | Strong association between early sexual initiation and having multiple partners | |
| 21 | | Adamson PC  2022  Vietnam | | | 16≥ | | Cohort | 1,489 | | | Chlamydia Trachomatis, Neisseria Gonorrhea | | | Baseline data | | | - | Multiple sex partners, Condomless anal sex  Meeting partners online | | High prevalence of N. Gonorrhea and C. Trachomatis among young MSM | |
| 22 | | Nguyen H  2024  Vietnam | | | Infertile women | | Cross-sectional | 761 | | | Chlamydia trachomatis (C.T.) | | | Endocervical swabs, PCR sequencing | | | - | Multiple partners, history of ectopic pregnancy, age at first intercourse < 18 | | High prevalence of C.T. among infertile women and routine screening recommended | |
| 23 | | Trans BX  2019  Vietnam | | | Factory workers | | Cross-sectional | 230 | | | STIs | | | Face-to-face interviews | | | - | Migrant status, Mobility, Self-care problems | | Low condom use among factory workers | |

KAIDS, Korea Federation for HIV/AIDS Prevention; PST, Primary syphilis test; FSWs, Female sex workers; PCR, Polymerase chain reaction; FESWs, Female entertainment sex workers; NA, Not available; HIV, Human immunodeficiency virus; HPV, Human papillomavirus; aOR, Adjusted odds ratio; MSM, Men who have sex with men; STI, Sexually transmitted disease; ROK, the Republic of Korea

Components of the identified risk factors:

The identified risk factors differed between countries. In the Republic of Korea, syphilis, gonorrhea, and chlamydia were the most studied STIs, and age, education level, number of sexual partners, and condom use were identified as the STI-associated risk factors. In Cambodia, poverty, gender inequity, stigmatization, lack of income, structural barriers, and alcohol use were identified as the STI risk factors. Risk factors for STIs in Indonesia included lack of access to condoms, number of sexual partners, lack of self-efficacy in condom use, and alcohol use. In Vietnam, studies identified condomless sexual behavior, online partner contact, age, and educational level as the risk factors for STIs. The primary STIs of concern were syphilis, gonorrhea, and chlamydia, while Hepatitis B and C were included in studies in Indonesia.

Focus group discussion:

To better understand the socio-cultural barriers in STI prevention and management policy change, government officers from each country’s Ministry of Health were interviewed in focus-group discussion (FGD). Table 2 shows the FGD participants. Four to five participants were randomly selected among the central- or provincial-level officers involved in infectious disease management per country, considering gender equity. Four participants each from the Republic of Korea, Cambodia, and Indonesia and five from Vietnam, participated in the FGD. Cultural similarities were observed among three countries, including Cambodia, Indonesia, and Vietnam, regarding the unwillingness to discuss gender-sensitive issues in the primary and secondary school curricula. Most young adults receive information on sexual behavior and how to protect themselves from diverse sources, which could result in incorrect knowledge about STIs. None of the four selected countries legally permit the buying and selling of sex; however, only the Republic of Korea and Vietnam enforce criminal penalties for violations of illegal prostitution. Vulnerable populations at risk of STIs typically receive information from public health centers during routine check-ups, and all four countries provide mandatory screening for STIs by regulations. However, attitudes toward the dismissal of entertainment or sex workers varied among the four countries, and most of the customers were locals rather than international visitors. Most FGD participants emphasized the importance of early education in their public curriculum, except those from the Republic of Korea, because the Republic of Korea Ministry of Education has already incorporated gender-sensitive topics and education into their formal curriculum from kindergarten to high school programs.

|  | **Country** | **Sex** | **Level of Government** | **Working experiences (yrs.)** |
| --- | --- | --- | --- | --- |
| 1 | Republic of Korea | Female | Central | 20 > |
| 2 | Republic of Korea | Female | Provincial | 25 > |
| 3 | Republic of Korea | Male | Central | 20 > |
| 4 | Republic of Korea | Male | Provincial | 20 > |
| 5 | Cambodia | Female | Central | 25 > |
| 6 | Cambodia | Female | Provincial | 10~15 |
| 7 | Cambodia | Male | Central | 20 > |
| 8 | Cambodia | Male | Provincial | 10~15 |
| 9 | Indonesia | Female | Central | 20 > |
| 10 | Indonesia | Female | Provincial | 20 > |
| 11 | Indonesia | Female | Central | 20 > |
| 12 | Indonesia | Male | Provincial | 10~15 |
| 13 | Vietnam | Female | Central | 20 > |
| 14 | Vietnam | Female | Provincial | 10~15 |
| 15 | Vietnam | Male | Central | 20 > |
| 16 | Vietnam | Male | Provincial | 10~15 |
| 17 | Vietnam | Male | Provincial | 50 |

Table 2. Participants of FGD

# Discussion

This comparative analysis of STI management strategies among the Republic of Korea, Vietnam, Cambodia, and Indonesia revealed some key insights into the socio-cultural and policy barriers affecting STI prevention and control in these countries. The STI status in the four selected countries was highlighted in this study. Most studies used cross-sectional methods1,11,15-17,19,20,22,23-26 to understand specific risk factors in their countries, although some qualitative and cohort studies were also performed. The preventive policy and barriers are discussed below.

Cultural and Educational Barriers:

The various prevention methods identified through FGDs with health officials from the four selected countries included raising awareness from the early stage of formal education, promoting condom use, and regular screening tests. Except for the Republic of Korea, the other three countries have a similar culture of not discussing gender-sensitive issues in any formal curriculum before entering universities, and all the health officials agreed on this. However, they stressed the importance of teaching basic knowledge at primary and secondary school levels. These results are significant because officials from three of the four selected nations, including Cambodia, Indonesia, and Vietnam, highlighted this issue. However, educational preparedness for teenagers was not a concern in the Republic of Korea, which showed relatively high awareness and compliance among high-risk populations.5,6 This could be attributed to the effects of gender-sensitive education from preschool to high school levels.

In 2023, Vietnam deployed extensive testing and counseling services for more than 2,700,000 people and distributed approximately 10 million needles and syringes free of charge to injecting drug users (IDUs). Of the 84,135 IDUs who had access to the needle and syringe program (78,000 higher than the 2023 plan), 26,211 sex workers and 72,215 men who have sex with men (MSM) had access to the condom program, and approximately 8.5 million condoms and 4.4 million lubricants were distributed free of charge to high-risk groups39 This approach has shown promise in reducing STI transmission among IDUs and sex workers. However, significant gaps in STI knowledge and misconceptions persist, particularly among young adults. A study in Ho Chi Minh City revealed significant gaps in STI knowledge and misconceptions among young adults, particularly young women.43,45 Additionally, cultural attitudes that discourage open discussions about sexuality and gender relations lead to risky behaviors such as unprotected sex. This study highlights the urgent need for comprehensive reproductive health education programs that are culturally appropriate and gender-sensitive to equip young adults with accurate information and promote safer sex practices.Effective awareness campaigns and education can empower young individuals to make informed decisions and reduce STI risks.43

Economical Barriers:

The risk factors of STI prevalence, such as age, sex, education, number of sexual partners, and condom use, were similar among the selected countries.5,25,26,35,38,39 However, differences were noted regarding factors such as poverty and economic status. Several studies on the barriers to condom use as a preventive method have revealed the importance of routine screening for early detection and treatment of STIs in Vietnam, based on research into genotypes.22 Geographic and economic interrelationships between Cambodia, Indonesia, and Vietnam highlight inter-governmental cooperation toward reducing STIs through the ban on overseas sex work.16,20,25 The Cambodian tourism industry has suffered from the increase in STIs among female entertainment workers.26,29 Moreover, some concerns were raised during the FGDs regarding the high prevalence of local individuals engaging in commercial sex. From 2018 to 2024, Cambodia made progress in controlling STIs, but significant challenges remain. The fluctuating infection rates highlight the need for sustained public health efforts, comprehensive surveillance, and targeted interventions for high-risk populations. Regions that received foreign visitors showed a high incidence of STIs, highlighting the need to raise awareness and encourage condom use among these high-risk groups. In Indonesia, female sex workers and MSM have been identified as particularly vulnerable.16,17,19 Consumers of commercial sex often come from neighboring countries, highlighting the need for strong policy recommendations to regulate this industry under the WHO Western Pacific Region’s guideline.

Policy Barriers:

The increase in STIs among migrant workers in Vietnam demonstrates the tailored health policies in controlling STIs, including cultural diversity, language, and educational differences.40,45 This issue is also a rising concern for neighboring low- and middle-income countries. In contrast, this issue is not as serious in the Republic of Korea, where all employees are required to undergo an annual health check-up under health insurance laws. The other three countries could implement this preventive policy if they are prepared to provide service coverage through their national health insurance systems. FGDs with Vietnamese health officers revealed that they receive workers from countries like Laos, Cambodia, and Myanmar, emphasizing the need for regional cooperation in STI management.

In Indonesia, education is essential in improving health behavior, particularly among vulnerable populations such as sex workers, transgender women, pregnant women, and rural housewives. Education shapes knowledge, attitudes, and practices for STI prevention.5-7 Circumcision is a notable preventive measure, and a three times higher chance of avoiding STIs was reported for circumcised MSM.8 Health service facilities and community-based care programs (Community Home-Based Care) provide comprehensive care and support for human immunodeficiency virus, acquired immunodeficiency syndrome, and STI. These programs include psychological, socio-economic, and spiritual support and social rehabilitation. Given the efficiency of the preventive interventions, condom use should not be disregarded due to low decision-making among sexual partners. Rather, legally binding policies that enforce condom use through penalties for non-compliance should be exploited. This approach is particularly beneficial because, unlike the Republic of Korea, the other three countries do not ensure that their populations are insured by national health insurance.

**Implication:**

This study compares STI management and strategies among four countries, including the Republic of Korea, Vietnam, Cambodia, and Indonesia. The findings showed that although all four countries focus on STI prevention among high-risk groups, their specific interventions vary significantly. The Republic of Korea has a well-structured approach that includes proactive provision of screening check-ups, legal regulations, and the integration of gender-sensitive education from preschool to high school levels. In contrast, Vietnam, Cambodia, and Indonesia demonstrate differences in cultural attitudes toward discussing gender-sensitive issues and the implementation of prevention measures such as condom use promotions.

These diverse approaches to STI prevention should be aligned with each country’s health financing and health system capacities. For instance, Vietnam’s widespread testing and counseling programs, along with the distribution of preventive supplies like condoms and needles, show promise in reducing STI transmission. However, knowledge gaps and cultural barriers necessitate a more comprehensive and culturally tailored educational program for STIs. Cambodia’s progress in STI control emphasizes the need for sustained public health efforts and targeted interventions for high-risk populations, highlighting the importance of governmental and inter-governmental cooperation.

**Limitations:**

This study specifically focused on four countries. Therefore, its findings should not be generalized to other countries without considering their unique socio-cultural and economic contexts. The scoping review methodology, although thorough, is inherently limited by the availability and quality of existing studies within the targeted timeframe. Additionally, the FGDs, despite providing valuable insights, are limited by the number of participants and the potential for interview-related bias. Nonetheless, this study offers a robust comparative analysis of STI policies and highlights the importance of contextual understanding in policy implementation.

**Conclusion:**

This review of STI policies in the Republic of Korea, Vietnam, Cambodia, and Indonesia highlights the critical importance of a comparative analysis in identifying effective preventive strategies tailored to each country’s unique context. For sustainable implementation, it is essential to consider the readiness for STI health policy enforcement and implement efficient interventions that take into account socio-economic conditions and raise community awareness. Prioritizing the efficiency of preventive measures, such as routine screenings, education programs, and legislation, is key to ensuring the long-term success and sustainability of these health initiatives.

The insights from this comparative analysis can inform future policy development and implementations, promoting better health outcomes and reducing the STI burden in the nations assessed and potentially other countries. By learning from each other’s successes and challenges, these nations can improve their STI policies, ultimately contributing to global health improvement and reducing the impact of STIs.

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**References**

1. Jung M. Effects of implementing the act of prohibition on sex trafficking on female sex workers’ sexually transmitted infections. *PLoS One*. 2017;12(8):e0182465. doi:10.1371/journal.pone.0182465
2. Jung M. Risk factors of sexually transmitted infections among female sex workers in Republic of Korea. *Infect Dis Poverty*. 2019;8(1):6. doi:10.1186/s40249-019-0516-x
3. Choi J, Choi JB, Bae S, et al. 2023 Korean sexually transmitted infections guidelines for non-gonococcal bacterial infection (chlamydia, syphilis, etc.) by the Korean Association of Urogenital Tract Infection and Inflammation. *Investig Clin Urol*. 2024;65(2):115-123. doi:10.4111/icu.20230322
4. Choi JE, Jeon JS, Kim JK. Distribution Analysis of *Candida albicans* according to Sex and Age in Clinical Specimen Testing for Sexually Transmitted Diseases. *J Microbiol Biotechnol*. doi:10.4014/jmb.2208.08029
5. Lee SJ, Jang TS, Kim JK. A retrospective study on the status of sexually transmitted co-infections in university hospitals in Korea from 2017 to 2021. *Ther Adv Infect Dis*. 2023;10:20499361231220154. doi:10.1177/20499361231220154
6. Lee SJ, Choi JB, Bae S, et al. 2023 Korean sexually transmitted infections treatment guidelines for *Mycoplasma genitalium* by KAUTII. *Investig Clin Urol*. 2024;65(1):16-22. doi:10.4111/icu.20230314
7. Coupland H, Page K, Stein E, et al. Structural interventions and social suffering: Responding to amphetamine-type stimulant use among female entertainment and sex workers in Cambodia. *Int J Drug Policy*. 2019;64:70-78. doi:10.1016/j.drugpo.2018.12.002
8. Evans JL, Couture MC, Carrico A, et al. Joint effects of alcohol and stimulant use disorders on self-reported sexually transmitted infections in a prospective study of Cambodian female entertainment and sex workers. *Int J STD AIDS*. 2021;32(4):304-313. doi:10.1177/0956462420964647
9. Brody C, Chhoun P, Tuot S, et al. A Mobile Intervention to Link Young Female Entertainment Workers in Cambodia to Health and Gender-Based Violence Services: Randomized Controlled Trial. *J Med Internet Res*. 2022;24(1):e27696. doi:10.2196/27696
10. Delvaux T, Ouk V, Samreth S, et al. Challenges and outcomes of implementing a national syphilis follow-up system for the elimination of congenital syphilis in Cambodia: a mixed-methods study. *BMJ Open*. 2023;13(1):e063261. doi:10.1136/bmjopen-2022-063261
11. Jary A, Cheng S, Marot S, et al. Prevalence and risk factors of anal human papillomavirus infections among men having sex with men and transgender women in Phnom Penh, Cambodia. *J Infect*. 2023;86(6):599-602. doi:10.1016/j.jinf.2023.02.038
12. Yang Y, Kim J, Park G, Thapa R. Exploring Cambodian adolescents' perceptions on sex: a qualitative investigation. *Front Reprod Health*. 2024;6:1275941. doi:10.3389/frph.2024.1275941
13. Ouk V, Pham CD, Wi T, van Hal SJ, Lahra MM; EGASP Cambodia working group. The Enhanced Gonococcal Surveillance Programme, Cambodia. *Lancet Infect Dis*. 2023;23(9):e332-e333. doi:10.1016/S1473-3099(23)00479-6
14. Fauk NK, Kustanti CY, Liana DS, Indriyawati N, Crutzen R, Mwanri L. Perceptions of Determinants of Condom Use Behaviors Among Male Clients of Female Sex Workers in Indonesia: A Qualitative Inquiry. *Am J Mens Health*. 2018;12(4):666-675. doi:10.1177/1557988318756132
15. Wirawan GBS, Wardhani BDK, Pradnyani PE, et al. Behavioral Changes, Adaptation, and Supports among Indonesian Female Sex Workers Facing Dual Risk of COVID-19 and HIV in a Pandemic. *Int J Environ Res Public Health*. 2022;19(3):1361. doi:10.3390/ijerph19031361
16. Nilasari H, Indriatmi W, Irawan Y, Budiono SE, Silviana A, Waworuntu W. The prevalence of sexually transmitted infections and their association with knowledge, attitudes, and practice in male street children in Indonesia. *Int J STD AIDS*. 2024;35(2):112-121. doi:10.1177/09564624231202058
17. Winarto H, Habiburrahman M, Kusuma F, Nuryanto KH, Anggraeni TD, Utami TW, Putra AD, Syaharutsa DM. Knowledge, Attitude, and Practice Towards Sexually Transmitted Infections Among Women of Reproductive Age in an Urban Community Health Centre in Indonesia. Open Public Health J. 2023;16: DOI: 10.2174/18749445-v16-e230111-2022-182.
18. Irawan Y, Chelsea E, Surya R. Eliminasi Sifilis di Indonesia pada tahun 2030: Berada di Jalur yang Benar. Cermin Dunia Kedokteran. 2023;50(4):234-237.4o
19. Fatiah MS, Purba R. Prevention of STI Transmission among Men Who Have Sex with Men in Indonesia through Circumcision Behavior. Jurnal Bidan Cerdas. 2023;5(3):110-120. doi:10.33860/jbc.v5i3.2744. Available from: [https://jurnal.poltekkespalu.ac.id/index.php/JBC](about:blank).
20. Son DT, Oh J, Heo J, et al. Early sexual initiation and multiple sexual partners among Vietnamese women: analysis from the Multiple Indicator Cluster Survey, 2011. *Glob Health Action*. 2016;9:29575. Published 2016 Feb 29. doi:10.3402/gha.v9.29575
21. Adamson PC, Bhatia R, Tran KDC, et al. Prevalence, Anatomic Distribution, and Correlates of Chlamydia trachomatis and Neisseria gonorrhoeae Infections Among a Cohort of Men Who Have Sex With Men in Hanoi, Vietnam. *Sex Transm Dis*. 2022;49(7):504-510. doi:10.1097/OLQ.0000000000001626
22. Nguyen H, Do Ngoc A, Nguyen Le V, et al. Prevalence, risk factors and genotyping of *chlamydia trachomatis* from endocervical specimens of infertile women at a tertiary care hospital, Vietnam. *Int J STD AIDS*. 2024;35(6):452-461. doi:10.1177/09564624241230342
23. Tran BX, Vo T, Dang AK, et al. Characterizing Unsafe Sexual Behavior among Factory Workers in the Context of Rapid Industrialization in Northern Vietnam. *Int J Environ Res Public Health*. 2019;16(24):5085. doi:10.3390/ijerph16245085
24. KDCA. 2022 Annual Report on the Notified HIV/AIDS in Korea. 2023. June.
25. Republic of Korea. Disease Portal. www.kdca.go.kr Accessed June 6, 2024
26. Sopheab H, Tuot S, Chhea C, et al. HIV prevalence, related risk behaviors, and correlates of HIV infection among people who use drugs in Cambodia. *BMC Infect Dis.* 2018;18(1). doi:10.1186/s12879-018-3067-6
27. National Center for HIV/AIDS, Dermatology and STDs. National HIV clinical management guidelines for adults and adolescents. 2020.
28. National Center for HIV/AIDS, Dermatology and STDs. Standard Operating Procedure Boosted Continuum of Prevention to Care and Treatment for Key Populations (B-CoPCT) in Cambodia. 2021.
29. Page K, Stein ES, Sansothy N, et al. Sex work and HIV in Cambodia: trajectories of risk and disease in two cohorts of high-risk young women in Phnom Penh, Cambodia. *BMJ Open*. 2013;3(9). doi:10.1136/bmjopen-2013-003095
30. National Center for HIV/AIDS, Dermatology and STDs. National Consolidated Guidelines on HIV Testing Services in Cambodia. 2017.
31. National Center for HIV/AIDS, Dermatology and STDs. Amendment to the National HIV Clinical Management Guidelines for Adults and Adolescents. 2022.
32. United Nations Cambodia. Despite impressive treatment results, Cambodia’s HIV response must address inequalities affecting children and young key populations. 2023.
33. Chhim S, Ngin C, Tuot S, et al. HIV prevalence and factors associated with HIV infection among transgender women in Cambodia: results from a national Integrated Biological and Behavioral Survey. *BMJ Open.* 2017;7(8). doi:10.1136/bmjopen-2016-015390
34. National Center for HIV/AIDS, Dermatology and STDs. Report Integrated Biological and Behavioral Survey and Population Size Estimation among Men Who Have Sex with Men and Transgender Women in Cambodia, 2023. 2023.
35. Ministry of Health Republic of Indonesia. Report on HIV AIDS and Sexually-Transmitted Diseases (STIs) Quarter I Year 2023. Accessed June 29, 2024. https://hivaids-pimsindonesia.or.id/download?kategori=Laporan%20Triwulan
36. Ministry of Health Republic of Indonesia. Report on HIV AIDS and Sexually-Transmitted Diseases (STIs) Quarter I Year 2022. Accessed June 29, 2024. https://siha.kemkes.go.id/portal/files\_upload/Laporan\_TW\_1\_2022.pdf
37. Ministry of Health Republic of Indonesia. Report on HIV AIDS and Sexually-Transmitted Diseases (STIs) Quarter III Year 2022. Accessed June 29, 2024. [https://siha.kemkes.go.id/portal/files\_upload/Laporan\_TW\_3\_2022.pdf](about:blank)
38. United Nations Vietnam. VN032 - National consultant for revision and update of national guidelines on diagnosis and treatment of sexually transmitted infections.
39. Vietnam Ministry of Health. Circular No. 07/2023/TT-BYT of April 04, 2023 on providing procedures and methods for epidemiological surveillance of HIV/AIDS and sexually transmitted diseases (STDs).
40. Tong L, Lin Z, Wu Z, et al. Trends and associated factors of HIV, HCV, and syphilis infection among different drug users in the China–Vietnam border area: an 11-year cross-sectional study (2010–2020). *BMC Infect Dis.* 2023;23:575. doi:10.1186/s12879-023-08239-3
41. Thanh Nguyen HT, Nguyen LT, Thanh Hoang HT, et al. Increase in human immunodeficiency virus and syphilis prevalence and incidence among men who have sex with men, Vietnam 2015–2020. *Int J STD AIDS.* 2024;35(3):197-205. doi:10.1177/0956462423123456
42. Ha T, Shi H, Givens D, Nguyen T, Nguyen N. Factors impacting HIV testing among young sexually active women migrant workers in Vietnamese industrial zones. *BMC Public Health*. 2023;23(1):1938. doi:10.1186/s12889-023-04678-9
43. Ho Chi Minh City Dermatology Hospital. https://www.bvdl.org.vn/ Accessed June 21, 2024. https://www.bvdl.org.vn/
44. Bui HTV, Bui HT, Chu SV, et al. Simultaneous real-time PCR detection of nine prevalent sexually transmitted infections using a predesigned double-quenched TaqMan probe panel. *PLoS One.* 2023;18(3). doi:10.1371/journal.pone.0282439
45. Lundberg PC. Sexually Transmitted Infections, Sexuality and Gender Relations Among Vietnamese Young Adults in Ho Chi Minh City, Vietnam: A Qualitative Study. 2020.