Summary of relevant WHO recommendations for action and research on Sexually Transmitted Infections (excluding HIV)

1) Definitions

Sexually transmitted infections (STIs) are infections caused by bacteria, viruses, and parasites that are transmitted through sexual contact, including vaginal, anal and oral sex.[1] Some STIs may also be spread by skin-to-skin sexual contact and/or through non-sexual means, such as from mother to child during pregnancy and childbirth.[1] There are more than 30 known bacteria, viruses, and parasites that cause STIs.[1]

2) Rationale

STIs among adolescents are an important problem. There are no published estimates for STI prevalence or incidence in adolescents at the global level, and current data sources on STIs among adolescents in most LMIC are weak. However, where age-disaggregated surveillance systems exist, a substantial proportion of STI incidence occurs among adolescents. In Europe, youth aged 15-24 accounted for 61% of all chlamydia infection cases in 2015.[2] In the USA, half of all STIs are reported in youth aged 15-24.[3] Adolescent girls may have greater biological susceptibility to STIs than adults due to the immaturity of the cervical mucosa and increased cervical ectopy.[3,4] The risk of contracting an STI is often greater for specific groups of adolescents, such as adolescent sex workers and their clients and boys who have sex with men or boys.[3,5]

STIs among adolescents have major health consequences. STIs can cause discomfort and pain.[6] Additionally, STIs can have serious consequences beyond the immediate impact of the infection itself. Herpes and syphilis are associated with a three or more fold-increased risk of transmitting or acquiring HIV.[1] Mother-to-child transmission of STIs can have serious consequences for the child, including stillbirth, neonatal death, low birth weight, and other adverse birth outcomes.[1] For example, syphilis in pregnancy leads to over 300,000 fetal and neonatal deaths each year.[6] HPV is responsible for an estimated 528,000 cases of cervical cancer per year and 266,000 cervical cancer deaths each year.[1] Furthermore, STIs such as gonorrhea and chlamydia are major causes of infertility.[1]

STI prevention and management services have shown to be effective. Behavioural interventions (i.e. CSE, brief sexuality related communication (BSC)[i], STI pre- and post-test counseling, safer sex/risk-reduction counseling, condom promotion) and barrier methods of contraception (i.e.

[i] *Brief sexuality-related communication (BSC)* refers to the opportunistic use of counseling by providers (nurses, doctors, health educators), with less certainty about the duration of the encounter or the possibility of follow-up encounters, to address sexuality and related personal or psychological problems as well as to promote sexual well-being.[95] Counseling refers to systematic consultations in primary care for addressing emotional, physiological and social issues that influence a person's health and well-being.[95]

male and female condoms) offer prevention against STIs.[7] Accurate diagnostic tests for STIs exist, along with treatments that can cure chlamydia, gonorrhea, syphilis, and trichomoniasis, and effectively treat herpes and hepatitis B.[6]

However, access and provision of quality services need attention. Effective STI prevention and management services are an urgent need for adolescent populations, including scale-up of STI case management and counseling and provision of HPV vaccination.[6] However, many adolescents do not have access to integrated STI prevention and management services.[6] Even when STI prevention and management services are available, adolescents often face barriers related to stigma, shame, cost, and lack of confidentiality.[8]

3) Relevant WHO guidelines

a) *WHO. WHO Guidelines for the Treatment of Treponema Pallidum (Syphilis). Geneva: WHO; 2016.*[9]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations on treatment of Treponema pallidum (syphilis). Broadly, it focuses on treatment recommendations for early syphilis (primary, secondary and early latent syphilis of not more than two years' duration), late syphilis (infection of more than two years' duration without evidence of treponemal infection), and congenital syphilis. This guideline issues the same recommendations for adolescents as for adults.

b) *WHO. WHO Guidelines for the Treatment of Genital Herpes Simplex Virus (HSV). Geneva: WHO; 2016.*[10]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations on treatment of genital HSV infection. Broadly, it focuses on treatment recommendations for the first clinical episode of genital HSV infection, recurrent clinical episodes of genital HSV infection (episodic therapy), recurrent clinical episodes of genital HSV infection that are frequent, and recurrent clinical episodes of genital HSV infection that are severe or cause distress (suppressive therapy). This guideline issues the same recommendations for adolescents as for adults.

c) *WHO. WHO Guidelines for the Treatment of Chlamydia Trachomatis (CT). Geneva: WHO; 2016.*[11]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations on treatment of infection with CT. Broadly, it focuses on treatment recommendations for uncomplicated genital chlamydia, anorectal chlamydial infection, genital chlamydial infection in pregnant women, lymphogranuloma venereum (LGV), and ophthalmia neonatorum. This guideline issues the same recommendations for adolescents as for adults.

d) *WHO. WHO Guidelines for the Treatment of Neisseria gonorrhea (NG). Geneva: WHO; 2016.*[12]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations on treatment of infection with NG. Broadly, it focuses on treatment recommendations for genital and anorectal gonococcal infections, oropharyngeal gonococcal infections, retreatment of gonococcal infections after treatment failure, and gonococcal ophthalmia neonatorum. The guideline highlights the need for countries to monitor their NG antimicrobial resistance (AMR) to inform national NG treatment recommendations. This guideline issues the same recommendations for adolescents as for adults.

e) *WHO. Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations. Geneva: WHO; 2014.*[13]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations for HIV prevention, diagnosis, treatment and care for five key populations: men who have sex with men, people who inject drugs, people in prisons and other closed settings, sex workers and transgender people. Broadly, it introduces a comprehensive package of interventions and describes health sector interventions, critical enablers, service delivery, and the decision-making, planning, and monitoring process. With regards to STIs, this guideline issues the same recommendations on treatment for adolescents as for adults, including:

- *Health facility:*
  - Ensure that key populations should have the same access to hepatitis B and C prevention, screening and treatment services as other populations at risk of or living with HIV.
  - Ensure that screening, diagnosis and treatment of sexually transmitted infections is available to all offered routinely as part of comprehensive HIV prevention and care for key populations.
  - Ensure that cervical cancer screening is offered to all women from key populations.

f) *WHO. Prevention and treatment of HIV and other sexually transmitted infections among men who have sex with men and transgender people: Recommendations for a public health approach. Geneva: WHO; 2011.*[14]

This guideline, which is relevant for but not specific to adolescents, provides recommendations for the prevention and treatment of HIV and other STIs among men who have sex with men and transgender people. Broadly, it covers prevention of sexual transmission; HIV testing and counselling; behavioural interventions and information, education, communication; substance use, prevention of bloodborne infections; HIV care and treatment; and prevention and care of other sexually transmitted infections. This guideline issues the same recommendations on treatment for adolescents as for adults.

g) *WHO. Prevention and treatment of HIV and other sexually transmitted infections for sex workers in low- and middle-income countries: Recommendations for a public health approach. Geneva: WHO; 2012.*[15]

This guideline, which is relevant for but not specific to adolescents, provides recommendations for the prevention and treatment of HIV and other STIs among sex workers and their clients. Broadly, it covers community empowerment, condom promotion, screening for asymptomatic

STIs, periodic presumptive treatment for STI, voluntary counselling and testing for HIV, antiretroviral therapy, needle and syringe programmes, and vaccination for hepatitis B virus. This guideline issues the same recommendations on treatment for adolescents as for adults.

h) *WHO. Consolidated guideline on sexual and reproductive health and rights of women living with HIV. Geneva: WHO; 2017.*[16]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations on the sexual and reproductive health and rights specific to women living with HIV. Broadly, it describes strategies for planning, developing and monitoring programmes and services that promote gender equality and human rights, taking into account national and local epidemiological contexts. This guideline issues the following adolescent-specific recommendations:

- *Health facility:*
  - Use BSC for the prevention of sexually transmitted infections among adults and adolescents in primary health services.
  - Ensure that health care workers receive appropriate recurrent training and sensitization to ensure that they have the skills, knowledge and understanding to provide services for adults and adolescents from key populations based on all persons' rights to health, confidentiality and non-discrimination.
  - Ensure that sexual and reproductive health services, including contraceptive information and services, are provided for adolescent girls without mandatory parental and guardian authorization/notification.

i) *WHO. Comprehensive cervical cancer control: A guide to essential practice, second edition. Geneva: WHO; 2014.*[17]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations for complementary strategies for comprehensive cervical cancer prevention and control, and highlights the need for collaboration across programmes, organizations and partners. Broadly, it focuses on essentials for cervical cancer prevention and control programmes; community mobilization, education and counseling; HPV vaccinations; screening and treatment of cervical pre-cancer; diagnosis and treatment of invasive cervical cancer; and palliative care. This guideline issues the following adolescent-specific recommendations:

- *Community:*
  - Use outreach strategies to reach and engage young girls and women who would most benefit from vaccination and screening, respectively, as well as men and boys and leaders in the community, and key stakeholders.
- *Health facility:*
  - Provide HPV vaccine as a population-based strategy to adolescent girls between the ages of 9 and 13 years.
  - Do not screen women younger than 30 years of age for cervical cancer, except women known to be HIV-infected or living in a high HIV prevalence area.

j) *WHO. Summary of the WHO Position Paper on Vaccines against Human Papillomavirus (HPV). Geneva: WHO; 2017.*[18]

This position paper, which is relevant for but not specific to adolescents, provides recommendations for prevention of cervical cancer, and other cancers and diseases preventable by HPV vaccination. Broadly, it updates recommendations for the number of doses of vaccine recommended for different age groups. This position paper issues the following adolescent-specific recommendations:

- *Health facility:*
  - As HPV vaccines are most efficacious in females who are naïve to vaccine-related HPV types, HPV-immunization programmes should initially prioritize high coverage in the primary target population of girls aged 9–13 years. Where possible, such programmes should be part of a coordinated strategy that includes education about risk behaviours for HPV infection, information on the continued value of screening programmes for cervical cancer, and training of health care workers. HPV vaccination of males is not recommended as a priority, especially in resource-constrained settings, as the available evidence indicates that the first priority should be for cervical cancer reduction by timely vaccination of young females and high coverage with each dose.
  - For both the bivalent and quadrivalent HPV vaccines, a 2-dose schedule with a 6-month interval between doses is now recommended for females younger than 15 years, including females 15 years or older at the time of the second dose. There is no maximum recommended interval between doses. However, an interval no greater than 12–15 months is suggested in order to complete the schedule promptly and before becoming sexually active.
  - If the interval between doses is shorter than 5 months, a third dose should be given at least 6 months after the first dose. A 3-dose schedule (0, 1–2, 6 months) is recommended for females aged 15 years and older, and for those known to be immunocompromised and/or HIV-infected (regardless of whether they are receiving ART). It is not necessary to screen for HPV infection or HIV infection prior to HPV vaccination. The need for a booster dose has not been established.

k) *WHO. Brief sexuality–related communication: Recommendations for a public health approach. Geneva: WHO; 2015.*[19]

This guideline, which is relevant for but not specific to adolescents, consolidates recommendations for health policy-makers and decision-makers in health professional training institutions on the rationale for health-care providers' use of counseling skills to address sexual health concerns in a primary health care setting. Broadly, it focuses on BSC to prevent STIs and training of health care providers. This guideline issues the following adolescent-specific recommendations:

- *Health facility:*
  - BSC is recommended for the prevention of STIs among adults and adolescents in primary health services.

4) Key concepts to consider

Adolescents often do not seek STI prevention and management services. Many adolescents lack knowledge about STIs and relevant services, including prevention and management.[8] Adolescents, especially those who would most benefit from vaccination and STI screening, should be informed about STIs using every opportunity of interactions with the health system and through educational outreach.[13] HPV vaccination strategies offer valuable opportunities for integration with school and primary care health services.[17]

STI prevention and management services often do not reach adolescents and, when they do, they are often not adolescent-friendly. STI prevention strategies, including provision of information, promotion of condom use, and provision of HPV vaccine, need to be tailored to reach and meet the needs of adolescents.[6] Further, efforts are needed to ensure that when adolescents know or expect that they have an STI, they seek care.[6] Lastly, STI management services must be adolescent-friendly: health care providers should be trained to inform, counsel and treat adolescents according to their evolving capacities to understand the treatment and care options being offered, and STI prevention and management services should be provided for adolescents without mandatory parental and guardian authorization/notification. Additionally, girls should not be asked about sexual activity prior to administration of the HPV vaccine.[17]

5) Key complementary documents in addition to the WHO guidelines

a) WHO. Global health sector strategy on sexually transmitted infections 2016-2021, towards ending STIs. Geneva: WHO; 2016.[6]
b) WHO. Human papillomavirus vaccines: WHO position paper, May 2017. Weekly epidemiological record. Geneva: WHO; 2017. No. 19 241-268.[20]
c) WHO. Guide to introducing HPV vaccine into national immunization programmes. Geneva: WHO; 2016.[21]
d) WHO. Scaling-up HPV vaccine introduction. Geneva: WHO; 2016.[22]
e) Center for Disease Control and Prevention. Sexually Transmitted Diseases: Treatment Guidelines, 2015. Atlanta: U.S. Department of Health and Human Services: Centers for Disease Control and Prevention, 2015.[23]
f) PATH, LSHTM. HPV vaccine lessons learnt project overview. Seattle: PATH; 2015.[24]

6) Real-life application of the guidelines

Since the release of the STI treatment guidelines for gonorrhoea, chlamydial infection, syphilis and genital herpes in 2016, WHO regional and country offices have disseminated and supported countries to adapt these guidelines. Moreover STI guidelines have been disseminated through linking these guidelines to dissemination workshops of guidelines in HIV and maternal, child, and newborn health.

All regional offices have organized workshops to disseminate these guidelines to country focal points including a joint WPRO, SEARO and EMRO dissemination workshop with 22 countries participating; 12 countries in PAHO and 28 countries in AFRO.

In Cambodia and Myanmar for example, STI technical committees were established to revised national guidelines based on the WHO STI guidelines. National funding for implementing gonorrhoea AMR surveillance has been supported in Cambodia and Brazil to inform revision of national gonorrhoea treatment recommendations. Based on results of gonorrhoea AMR surveillance, Zimbabwe and Kenya revised their STI treatment recommendations based on WHO guidelines.

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