sexual history and symptoms may not be sufficient for HIV/STI control for our local at-risk MSM population. This underscores the need for MSM-oriented sexual health services for appropriate HIV/STI screening, support and management. This study aimed to examine the prevalence of HIV and STI in MSM and assess whether the MSM-focused community health services reached the at-risk MSM in Hong Kong.

Methods & Materials: A cross sectional study was conducted in 2016/2017 and MSM attending the community-based VCT site were included to participate regardless of symptoms. Information on sociodemographic, sexual behavioral characteristics, and HIV/STI testing history were collected by self-administered questionnaire. Screening for *C. trachomatis*/*N. gonorrhoeae*, HCV, HIV, and syphilis infections were offered free of charge.

Results: Of 368 MSM, 4.5% and 6.1% were diagnosed with HIV and syphilis, respectively. Sexually transmitted HCV infection in MSM was low (1.1%). The positivity for urethral chlamydial and gonococcal infection was 5.0% and 1.1%, respectively; whereas pharyngeal *C. trachomatis* and *N. gonorrhoeae* was 2.7% and 7.3%, respectively. There were 56 (16.9%) MSM infected with rectal chlamydial infection, while 26 (7.9%) had rectal gonorrhea.

Conclusion: Asymptomatic STI were common in MSM and remain undiagnosed and untreated. This study reveals a relatively high prevalence of STI, particularly rectal chlamydial and gonorrhea infections. Community sexual health services can reach the local at-risk MSM and provide new opportunities for HIV/STI prevention and counselling. Offering comprehensive community-based preventive and testing services for HIV with expanded STI screening including syphilis, HCV, chlamydia and gonorrhea for MSM would facilitate early diagnosis and treatment of STI and improve the control of HIV infection.

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UMP. 669

Evaluation of a new accelerated commercial micro-method for the presumptive diagnosis of Mycoplasma genitalium infections

B. Mondeja [1,*], J.S. Jensen [2], O. Blanco [1], N. Rodríguez [1]

[1] *Tropical Medicine Institute "Pedro Kouri", Bacteriology/Mycology, Havana, Cuba*
[2] *Statens Serum Institut, Microbiology and infection Control, Copenhagen, Denmark*

Background: *Mycoplasma genitalium* is a urogenital pathogen responsible for sexually transmitted infections in men and women. The growth of this bacterium is very slow and high-quality mycoplasma culture media or Vero cell co-culture is necessary for the isolation. Laboratory diagnosis of *M. genitalium* infections is based in molecular tests, principally in qPCR. In 2014, the MYCOWELL–D-ONE (CPM Scientifica, Italy) culture-based kit was introduced and validated in Cuba for the diagnosis of urogenital mycoplasma such *Mycoplasma hominis* and *Ureaplasma* spp., but no data were available on the utility of this kit for the identification of *M. genitalium*. The aim of this study was to evaluate the MYCOWELL-D-ONE for the identification of *M. genitalium* in clinical specimens compared with *M. genitalium* qPCR.

Methods & Materials: A total of 130 urogenital specimens from Cuban male and female patients with sexually transmitted urogenital infection (cervicitis or urethritis) were analyzed by the MYCOWELL-D-ONE kit and *M. genitalium* qPCR *mgp*B. Results were analyzed by Graph-Pad Prims 6 and sensitivity, specificity and predictive values were calculated.

Results: *M. genitalium* was detected in 29 samples by qPCR and 10 of these were positive for *Mycoplasma* spp. (glycolytic group) suggetive of *M. genitalium* by MYCOWELL-D-ONE. The MYCOWELL-D-ONE kit showed a specificity of 100% (95% CI: 96.41 to 100.0%) and a sensitivity of 34.48% (17.94 to 54.33) for detection of *M. genitalium* in clinical specimens.

Conclusion: In conclusion, PCR continue to be the best alternative for *M. genitalium* diagnosis, but the surprisingly high culture positive rate in the MYCOWELL-D-ONE kit merits further investigation as cultured strains are strongly needed to increase our knowledge about this difficult, emerging pathogen.

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UMP. 670

Time series transition of basic reproduction number of Syphilis in Japan

S. Tsuzuki [1,*], T. Yamaguchi [2], H. Nishiura [1]

[1] *Hokkaido University, Department of Hygiene, Sapporo, Japan*
[2] *Hokkaido University, Sapporo, Japan*

Background: Syphilis remains a global challenge, despite the existence of effective preventive measures and treatment options. Recently, reported number of Syphilis case has been increasing in Japan. The total number of reported syphils case amounted to 4,559 in 2016, which is over 7 times larger than that in 2010. However, we have not identified any specific cause of this increase so far. Furthermore, it is often difficult for us to comprehend actual epidemioloy of Syphilis due to uncertainty in reporting system and its clinical characteristics. On the other hand, basic reproduction number (R_0) has been regarded as a key indicator of infectious diseases to understand how they transmit from human to human. In this study, we investigated time series transition of effective reproduction number (R_t) for better understanding of the current Syphilis outbreak in Japan.

Methods & Materials: To estimate R_t, we employ the renewal equation. Let i_w be the number of new cases on epidemiological week w, we have $i_w = R_t \Sigma i_{w-\tau} * g_\tau$

Where g_τ represents probability distribution function of generation time. Assuming that the observed incidence followed a Poisson distribution, we estimated R_t by fitting the equation to observed data. Observed data were separated into male-primary, male-secondary, female-primary and female-secondary Syphilis. Parameters for each compartment were calculated by maximum likelihood estimation.

Results: The basic reproduction number (R_0) of Syphilis in Japan has increased from 1.32 to 1.50 during 2006-2015. Considering each component of R_t, fraction of female to male transmission incremented during the decade of the research interest.

Conclusion: R_t of Syphilis in Japan has gradually increased from 2006 to 2015. The incremented fraction of female-to-male transmission component suggests that the main route of Syphilis transmission also changed. Epidemiological prediction and constructing more detailed model would be future challenges.

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