Estimating the global burden of sexually transmitted infections

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Zheng and colleagues re-analysed estimates from the Global Burden of Disease (GBD) 2019 study and report age-standardised incidence rates and disability-adjusted life-years (DALYs) caused by five sexually transmitted infections (STIs), syphilis, gonorrhoea, chlamydia, trichomoniasis and genital herpes, from 1990 to 2019.[1] We urge caution in the use and interpretation of the results.

First, the overall burden of disease reported, 1·31 million (uncertainty interval 0·80–2·20) DALYs, is a large underestimate because analysis is restricted to people aged 10 years and older. The GBD study database for all ages reports 8.22 million DALYS for the five STIs, of which 7.26 million are years of life lost due to congenital syphilis. In fact, the total burden of disease for these five STIs is even higher because GBD estimates do not account for an estimated 7·7% (4·6-12%) of stillbirths worldwide due to syphilis,[2] the consequences of congenital herpes simplex virus, pregnancy-specific impacts of other STIs, or the impact of STIs on HIV transmission.[3,4] All of these consequences disproportionately affect low- and middle-income countries.

Second, data underlying the GBD 2019 study are themselves subject to limitations, which are a source of uncertainty.[5] STI incidence estimates are based on a limited number of prevalence studies, most of which include only women and employ heterogeneous sampling and data collection methods. Prevalence data are combined with assumptions about disease remission, a robust database for

cause-specific mortality, and Bayesian regression methods to produce estimates for all locations, even where data are absent.

Third, Zheng *et al.* conclude that age-standardised STI incidence rates declined from 1990—2019. Although the global estimated annual percent change (EAPC) is negative, its 95% uncertainty interval includes 0, which is compatible with stable levels. Furthermore, the EAPC summarises changes over a 29-year period, but country-by-country review of full time-series estimates reveals many countries with increases in age-standardised incidence in recent years. Lastly, although the numbers of incident cases reported do align with the GBD tool, it is unclear why age-group-specific incidence rates are much higher than in GBD, and why the 10-24 years age-group has the highest numerical STI rates.

Complete and reliable STI burden of disease estimates are essential for global investment, policy development and programme implementation. Limitations of existing GBD estimates should be acknowledged. Efforts to provide a more comprehensive estimation of STI health impact and to close gaps in primary data are urgently warranted.

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Declaration of interests

RP, RMC and JR have no conflict of interest to declare.

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