Sexual and reproductive health during COVID-19 — the I-SHARE multi-country survey

Rayner K. J. Tan[1,2,3], Kristien Michielsen[4], Linda Campbell[4,5] and Joseph D. Tucker[2,6,7] ✉

Reliable information about sexual and reproductive health and service access during coronavirus disease 2019 (COVID-19) are essential. The International Sexual Health and Reproductive Health (I-SHARE) study is led by a multi-country consortium that adopts an open science approach to achieve this goal. Future work will be needed to assess changes in sexual and reproductive health during the lifting of COVID-19 restrictions.

[1]*Dermatology Hospital of Southern Medical University, Guangzhou, China.*

[2]*University of North Carolina Project-China, Guangzhou, China.*

[3]*Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore.*

[4]*Department of Public Health and Primary Care, Faculty of Medicine and Health Sciences, University of Ghent, Ghent, Belgium.*

[5]*Center for Population, Family, and Health, University of Antwerp, Antwerp, Belgium.*

[6]*Institute of Global Health and Infectious Diseases, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA.*

[7]*Clinical Research Department, Faculty of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, London, UK.*

✉*e-mail: jdtucker@med.unc.edu*

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The effects of coronavirus disease 2019 (COVID-19) restrictions on sexual behaviours and access to essential reproductive health services are debated. After the introduction of COVID-19 lockdowns and restrictions across the globe, two countervailing ideas about sexual and reproductive health emerged. Some experts hypothesized that travel restrictions would have caused a decrease in sex frequency, providing a unique opportunity to reduce the burden of sexually transmitted infections (STIs) and improve STI control. However, other researchers speculated that COVID-19 restrictions would have encouraged condomless sex and intimate partner violence (IPV)[1]. Another potential effect of the COVID-19 pandemic could be the closure of important sexual and reproductive health centres.

Understanding how to get reliable information about sexual and reproductive health behaviours and service access during COVID-19 is the focus of the International Sexual Health and Reproductive Health (I-SHARE) study[2]. The I-SHARE consortium includes research teams in 30 countries: Argentina; Australia; Botswana; Canada; China; Colombia; Czech Republic; Denmark; Egypt; France; Germany; Italy; Kenya; Latvia; Lebanon; Luxembourg; Malaysia; Mexico; Moldova; Mozambique; Nigeria; Panama; Portugal; Singapore; South Africa; Sweden; Spain; Uganda; USA; and Uruguay. Research teams were identified through a previous WHO crowdsourcing open call[3] and a call for interest through the Academic Network for Sexual and Reproductive Health and Rights Policy (ANSER). The consortium adopted an open science approach, welcoming any interested researcher to join the consortium and organize an online survey. The open access approach includes the use of open access software for data collection, dissemination of the survey through open platforms and encouragement of open communication of findings.

The initial I-SHARE study (I-SHARE-1) focused on changes in sexual behaviours, IPV, and access to sexual and reproductive health services and commodities during initial COVID-19 waves (July 2020–February 2021). Sampling methods used by the consortium included convenience sampling (22 countries), online panels (6 countries) and population-representative studies (2 countries). The survey instrument included existing survey items from population-based instruments[3] and items adapted for COVID-19 (REF.[4]). Cross-sectional surveys were disseminated through an online survey link in all 30 countries, and a range of recruitment methods were used, including social media, professional organizations, clinics and online panels. Research teams from each country were required to meet several pre-specified criteria for inclusion in the final dataset; for example, research team members needed to get a local institutional review-board approval for the study, field-test the instrument and obtain responses from at least 200 participants. Eligible participants were people ≥18 years of age who resided in one of the participating countries at the time of the survey and consented to participate. The study obtained institutional review-board approval in each participating country[2]. A data sharing agreement was signed by all partners.

A systematic review of data pooled from I-SHARE-1 was published in 2022 (REF.[2]). A total of 22,742 participants joined the study from 25 countries. Results from this analysis showed that, during COVID-19 restrictions, 32.3% (95% CI 23.9–42.1) of people needing testing for HIV and/or STIs experienced restricted access to facilities, 4.4% (95% CI 3.4–5.4) of total participants experienced partner violence and 5.8% (95% CI 5.4–8.2) of total participants reduced the use of condom with casual sex partners. The underlying mechanisms were not examined in this study; however, these findings were robust according to sensitivity analyses based on country income level, sample size and sampling strategy[2].

Some I-SHARE survey analyses focused on the effect of COVID-19 on the three primary pre-specified outcomes of the survey: sexual behaviours, IPV and access

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to reproductive health care. Sexual behaviours encompassed individual sexual practices (such as vaginal, oral or anal sex), type of sexual partners (such as casual or steady partners), condomless sex and sexual satisfaction; sexual behaviours adopted since the introduction of COVID-19 restrictions were compared with behaviours adopted 3 months before COVID-19 restrictions. The IPV analysis focused on sexual, physical, emotional and financial components of IPV based on items adapted from a WHO survey instrument. Preliminary findings suggest different effects of COVID-19 on IPV, depending on a range of factors at an individual and country level[5]. For example, slightly decreased odds of experiencing intimate partner sexual coercion during COVID-19 restrictions were reported from people who were residing in countries with a stringent lockdown and, therefore, could not see their partners[5]. Additionally, women working from home had higher chances of experiencing IPV than women working on-site, and this association was particularly evident in countries with great gender inequality (N. Miall, unpublished work). I-SHARE survey items focusing on reproductive health access included the effect of the pandemic on fertility intentions, access to contraception and contraception uptake, and use of pregnancy-care services. Analysis of the I-SHARE-1 survey items focusing on sexual behaviours and reproductive health access is underway.

Data from I-SHARE-1 have already had an effect on sexual and reproductive health policies in several countries and regions. For example, the United Nations Family Planning Association (UNFPA) regional office for Eastern Europe and Central Asia used the I-SHARE survey instrument to organize a similar multi-country analysis in these regions[6]. I-SHARE-1 survey data were also influential in sensitizing public opinion on the repercussions of COVID-19 on sexual and reproductive health in the Czech Republic, Latvia, Panama, Portugal, Uruguay and other countries, through media coverage of findings from the survey obtained in these countries. The success of I-SHARE-1 suggests the possibility of using open science methods when organizing multi-country research studies. The consortium also generated best practices for implementing online health surveys[7], built capacity among junior researchers and considered how to nurture equitable global health partnerships in diverse settings.

I-SHARE-1 provided important insights about the effect of initial COVID-19 waves on sexual health; however, second and third COVID-19 waves might have had a different effect on sexual and reproductive health. The severity and composition of COVID-19 restrictions have changed over time, introducing new questions about the consequences of restrictions on sexual and reproductive health. In response to these changes, the consortium developed an I-SHARE-2 study (I-SHARE website).

The purpose of the I-SHARE-2 study is to examine sexual and reproductive health during the second and the third wave of COVID-19 in selected countries. Participants were recruited from 17 countries, including some countries from the I-SHARE-1 study and others in Eastern Europe and Central Asia through a collaboration with the regional UNFPA office. The I-SHARE-2 study design was similar to the first study[2] for the use of an online cross-sectional approach. New survey items focusing on digital platforms relevant to sexual and reproductive health outcomes (including cybersex and use of platforms for service delivery), access to menstrual hygiene products and services, and discrimination related to sexual health were included. Moreover, the new survey has a strong focus on the effect of COVID-19 on young people's (18–25 years old) sexual and reproductive health, including experiences of violence and access to sexual and reproductive health-care services. Data collection for I-SHARE-2 started in March 2021.

Data from the I-SHARE consortium have implications for research and policy. From a research perspective, the approach used by the consortium suggests that open science methods are feasible in a wide variety of settings. As COVID-19 restrictions are lifted and people resume close-to-normal social interactions, further comparative research will be necessary to understand the evolution of sexual and reproductive health. From a policy perspective, evidence from the I-SHARE-1 survey suggests that some of the remote working arrangements introduced during COVID-19 could have increased the risk of IPV. This information supports the need for IPV prevention, surveillance and interventions within the many remote working programmes that will be sustained after the COVID-19 pandemic.

In summary, data from the I-SHARE-1 study suggest that COVID-19 restrictions have had heterogeneous effects on different populations in different settings. Travel restrictions, which have caused chaos and stress for many people, might have been associated with a modest decrease in intimate sexual partner coercion for people who were not living with their violent partners. These differences highlight the importance of multi-country research to evaluate crucial sexual and reproductive health outcomes during COVID-19. Further research and action are needed to monitor and improve sexual and reproductive health moving forwards through the end of COVID-19 restrictions.

1. Hall, B. J. & Tucker, J. D. Surviving in place: the coronavirus domestic violence syndemic. *Asian J. Psychiatr.* **53**, 102179 (2020).
2. Erausquin, J. T. et al. The International Sexual Health And Reproductive Health during COVID-19 (I-SHARE) study: a multicountry analysis of adults from 30 countries prior to and during the initial coronavirus disease 2019 wave. *Clin. Infect. Dis.* https://doi.org/10.1093/cid/ciac102 (2022).
3. Kpokiri, E. E. et al. Development of an international sexual and reproductive health survey instrument: results from a pilot WHO/HRP consultative Delphi process. *Sex. Transm. Infect.* **98**, 38–43 (2022).
4. Michielsen, K. et al. International Sexual Health And REproductive health (I-SHARE) survey during COVID-19: study protocol for online national surveys and global comparative analyses. *Sex. Transm. Infect.* **97**, 88–92 (2021).
5. Campbell, L. et al. Intimate partner violence prior to and during COVID-19 measures in 30 countries: a global cross-sectional study from the I-SHARE Consortium. Preprint at https://doi.org/10.2139/ssrn.3974550 (2021).
6. Campbell, L., De la Torre, F. F. & Michielsen, K. The impact of COVID-19 on sexual and reproductive health in eight countries in Eastern Europe and Central Asia. Technical report for United Nations Family Planning Association (UNFPA) regional office for Eastern Europe and Central Asia (UNFPA, 2022).
7. Hlatshwako, T. G. et al. Online health survey research during COVID-19. *Lancet Digit. Health* **3**, e76–e77 (2021).

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Competing interests
The authors declare no competing interests.

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