

COMMENTARY

Open Access



Sexual and reproductive health (SRH): a key issue in the emergency response to the coronavirus disease (COVID- 19) outbreak

Kun Tang^{1*} , Junjian Gaoshan², Babatunde Ahonsi², Moazzam Ali³, Mercedes Bonet³, Nathalie Broutet³, Edna Kara³, Caron Kim³, Anna Thorson³ and Soe Soe Thwin³

Abstract

The novel coronavirus disease (COVID-19) outbreak was first declared in China in December 2019, and WHO declared the pandemic on 11 March 2020. A fast-rising number of confirmed cases has been observed in all continents, with Europe at the epicentre of the outbreak at this moment.

Sexual and reproductive health (SRH) and rights is a significant public health issue during the epidemics. The novel coronavirus (SARS-CoV-2) is new to humans, and only limited scientific evidence is available to identify the impact of the disease COVID-19 on SRH, including clinical presentation and outcomes of the infection during pregnancy, or for persons with STI/HIV-related immunosuppression. Beyond the clinical scope of SRH, we should not neglect the impacts at the health system level and disruptions or interruptions in regular provision of SRH services, such as pre- and postnatal checks, safe abortion, contraception, HIV/AIDS and sexually transmitted infections. Furthermore, other aspects merit attention such as the potential increase of gender-based violence and domestic abuse, and effects of stigma and discrimination associated with COVID-19 and their effects on SRH clients and health care providers. Therefore, there is an urgent need for the scientific community to generate sound clinical, epidemiological, and psycho-social behavioral links between COVID-19 and SRH and rights outcomes.

Keywords: COVID-19, Outbreak, Pandemic, Sexual and reproductive health

Commentary

On 31 December 2019, the World Health Organization (WHO) was informed of a cluster of cases of pneumonia of unknown cause, first of which reported on 9 December, detected in Wuhan City, Hubei Province of China. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified as the causative virus by Chinese authorities on 7 January, with evidence of human-to-human transmission by 20th January. On 30 January 2020 the outbreak is declared a Public Health Emergency of International Concern (PHEIC) and a pandemic on March 11, 2020.

On March 16, 2020, the total number of cases outside China had overtaken the total number of cases in China. As of 16th March 2020, 167,511 corona virus disease (COVID-19) cases had been confirmed globally in 148 countries. Europe has now become the epicenter of the pandemic. A fast-rising number of confirmed cases has also been observed in many countries, including the US, Iran, Italy and currently counting cases on all continents [1].

As early as in February, the United Nations Population Fund (UNFPA) Asia and Pacific Regional Office issued its first guidance document and elucidated that SRH is a significant public health issue during epidemics [2]. WHO and Human Reproduction Programme (HRP) have also highlighted SRH in its research roadmap for

* Correspondence: tangk@mail.tsinghua.edu.cn

¹School of Medicine, Tsinghua University, Beijing, China

Full list of author information is available at the end of the article



© The Author(s). 2020, corrected publication 2020. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

the COVID-19 [3, 4], as part of the overall WHO response to the outbreak.

COVID-19 is new to humans, and only limited scientific evidence is available to identify its impact on sexual and reproductive health (SRH). It is inconclusive as to whether transmission from the pregnant woman to the fetus exists in COVID-19 [5, 6]. Undoubtedly, the risk of mother-to-child transmission, whether during pregnancy, childbirth or breastfeeding, is one of many clinical questions to be answered in relation to modes of transmission. There are other emerging questions that require special attention, for example, whether SARS-CoV-2 disproportionately cause severe illness and death in pregnant and postpartum women, similar to what we observed during other outbreaks causing severe acute respiratory infection (SARI), where evidence raised questions but provided very few answers [7, 8]. Is infection during pregnancy associated with increased risk of fetal demise and medium-to-long-term adverse infant outcomes? Does infection at different stages of pregnancy influence the severity of disease progression and the reproductive outcomes, for example in future pregnancies? The presence and persistence of the virus in bodily fluids including amniotic fluid and breastmilk is still unanswered as well as the underlying risk of sexual transmission or transmission from the woman to the health care provider during delivery.

It is also important to recognise that reproductive health issues may not be restricted to women, but that men may also suffer consequences. SARS-CoV-2 infection may increase the risk of damage to testicular tissues [9], and we are yet unaware of COVID-19 consequences to male SRH. This long-term implication remains to be investigated.

For both men and women, questions around whether persons with STI/HIV-related immunosuppression are at greater risk of contracting COVID-19 and experiencing poorer recovery rates may also be worthy of investigation given their public health implications. An early February 2020 online survey of persons living with HIV in China indicated this issue as a major source of anxiety within this community [10].

Beyond the clinical scope of SRH, we should not neglect the second tier of impact from COVID-19 on SRH. At the health system level, to support Hubei Province's emergency response, 189 medical teams, consisting of 21,569 health professionals were assembled across China and dispatched to Hubei Province [11]. Although policy directives were issued by the national and provincial health authorities in early February 2020 to protect pregnant women's access to maternity services [12, 13], the absence of health care workers from their original duty may still have caused interruptions in regular provision of services, such as essential SRH services, including those

for pre- and postnatal checks, safe abortion, contraception, HIV/AIDS and sexually transmitted infections.

It has also been suggested that demands of safe abortion services, including information provision, has increased in the hospitals in nearby Hunan Province of China, which may be related to lack of contraceptive commodities or to fear of unknown consequences of infection during pregnancy in the context of an epidemic [14]. These scenarios are similar to what we observed for the Zika and Ebola outbreaks [15], and could be expected during the COVID-19 pandemic across different countries. As was noted during Zika epidemic in Puerto Rico, when quality contraceptive services were made available and accessible, the use of contraceptives to prevent unintended pregnancy and adverse birth outcomes due to prenatal exposure, increased [16]. It would be valuable to track how long it will take for the utilization of essential SRH services to return to their pre-outbreak levels once COVID-19 has become largely controlled. There is evidence that during the 2014–2015 Ebola outbreak in West Africa the utilization of family planning, antenatal care and institutional deliveries declined and did not fully recover to pre-outbreak levels for 6 months [17, 18].

Gender-based and domestic violence is also a major concern of SRH and rights, and the consequences of enforced self-quarantine or compulsory quarantine policy to contain the outbreak are unknown. Evidence shows that quarantine leads to negative psychological effect, including post traumatic stress symptoms, confusion and anger [19]. Quarantine might, therefore, increase the risk of gender-based violence and domestic abuse, which have been observed in other major disease outbreaks [20]. Stigma and discrimination associated with COVID-19, their effects on clients and health care providers, and how these affect the uptake of SRH services should also be of significant research interest judging by lessons learnt from previous epidemics [21].

SRH and rights is a significant public health issue during outbreaks and it should be a priority. As this pandemic is still evolving, it is urgent for the scientific community to generate solid clinical, epidemiological, and psycho-social behavioral links between COVID-19 and SRH and rights outcomes. In particular, there is a strong need for timely planning and actions for epidemiological research and surveillance of the key vulnerable groups of women and adolescents, and to assess the immediate, medium and long-term effects on their SRH. Perhaps more importantly, we need to solidify operational strategies and actions to protect SRH and rights of women, young people, and vulnerable populations during the epidemic. This requires not only the scientists and physicians, but also policy-makers, community organizations, and international agencies, to work in coordination, trust, and solidarity.

Abbreviations

COVID-19: Coronavirus disease; CRF: Case report forms; HIV/AIDS: Human immunodeficiency virus/acquired immunodeficiency syndrome; HRP: UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction; SARI: Severe acute respiratory infection; SARS-CoV-2: Severe acute respiratory syndrome coronavirus 2; SRH: Sexual and reproductive health; STI/HIV: Sexually-transmitted infection/ human immunodeficiency virus; WHO: World Health Organization; UNFPA: United Nations Population Fund

Acknowledgements

We thank Dr Ian Askew (Director, WHO Department of Sexual and Reproductive Health and Research, HRP) for his comments to the manuscript.

Authors' contributions

TK drafted the commentary. All authors provided substantial inputs and approved the final version.

Funding

No funding was received for this work.

Availability of data and materials

Not applicable.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests. The authors alone are responsible for the views expressed in this article and they do not necessarily represent the views, decisions or policies of the institutions with which they are affiliated.

Author details

¹School of Medicine, Tsinghua University, Beijing, China. ²United Nations Population Fund China Office, Beijing, China. ³UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP), Geneva, Switzerland.

Received: 16 March 2020 Accepted: 25 March 2020

Published online: 23 April 2020

References

1. The World Health Organization. Coronavirus disease (COVID-19) situation report as of 14th March, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/>. Accessed 15 Mar 2020.
2. The United Nations Population Fund Asia and Pacific Regional Office. Coronavirus Guidance Document. <https://china.unfpa.org/en/publications/202006001> 2020.
3. The World Health Organization. 2019 Novel Coronavirus Global Research and Innovation Forum: Towards a Research Roadmap. https://www.who.int/blueprint/priority-diseases/key-action/Overview_of_SoA_and_outline_key_knowledge_gaps.pdf?ua=1.
4. WHO. COVID-19: Operational guidance for maintaining essential health services during an outbreak. Interim guidance: 25 March 2020. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/maintaining-essential-health-services-and-systems>.
5. Neonates tested SARS-CoV-2 positive 30 hours after birth. CNR.cn. http://www.cnr.cn/hubei/ychuang/20200205/t20200205_524961963.shtml. Accessed 18 Feb 2020.
6. Chen H, Guo J, Wang C, Luo F, Yu X, Zhang W, Li J, Zhao D, Xu D, Gong Q, Liao J. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. *The Lancet*. 2020;395:10226(809-815).
7. Siston AM, Rasmussen SA, Honein MA, Fry AM, Seib K, Callaghan WM, Louie J, Doyle TJ, Crockett M, Lynfield R, Moore Z. Pandemic 2009 influenza a (H1N1) virus illness among pregnant women in the United States. *JAMA*. 2010;303(15):1517–25.
8. Wong SF, Chow KM, Leung TN, Ng WF, Ng TK, Shek CC, Ng PC, Lam PW, Ho LC, To WW, Lai ST. Pregnancy and perinatal outcomes of women with severe acute respiratory syndrome. *Am J Obstet Gynecol*. 2004;191(1):292–7.
9. Fan C, Li K, Ding Y, Lu WL, Wang J. ACE2 Expression in Kidney and Testis May Cause Kidney and Testis Damage After 2019-nCoV Infection. *medRxiv*. 2020. <https://www.medrxiv.org/content/10.1101/2020.02.12.20022418v1>.
10. UNAIDS And China working together during the COVID-19 outbreak to ensure that people living with HIV continue to get treatment. UNAIDS. https://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2020/february/20200218_china_covid19. Accessed 12 Mar 2020.
11. National Health Commission: 189 medical teams, consisted of more than 20,000 health professionals have been sent to support Hubei Province. *Xinhua News*. http://www.bj.xinhuanet.com/jzgz/2020-02/13/c_1125569211.htm, Accessed 17 Mar 2020.
12. State Council Circular on Maternal Health Care and Safe Motherhood during COVID-19. State Council of People's Republic of China. http://www.gov.cn/xinwen/2020-02/10/content_5476731.htm. Accessed 10 Mar 2020.
13. Hubei provincial notice on strengthening COVID-19 prevention for pregnant women, Provincial Government of the People's Republic of China. http://www.hubei.gov.cn/zwgg/hbyw/hbywqb/202002/t20200209_2021966.shtml, Accessed 17 Mar 2020.
14. After hospital resumed business, abortion service demands increased significantly. <https://wap.china.com/act/toutiao/13002842/20200218/37810950.html>, Accessed 17 March 2020.
15. Special Issue: Building opportunities during the Zika epidemic in the Americas: The case for strengthening research capacity. Vol 148 Issue S2. World Health Organization <https://www.who.int/reproductivehealth/zika/sexual-transmission-experts-meeting/en/>. Accessed 15 Mar 2020.
16. Lathrop E, Romero L, Hurst S, Bracero N, Zapata LB, Frey MT, Rivera MI, Berry-Bibee EN, Honein MA, Monroe J, Jamieson DJ. The Zika contraception access network: a feasibility programme to increase access to contraception in Puerto Rico during the 2016–17 Zika virus outbreak. *Lancet Public Health*. 2018;3(2):e91–9.
17. Camara BS, Delamou A, Diro E, Béavogui AH, El Ayadi AM, Sidibé S, Grovogui FM, Takarinda KC, Bouedouo P, Sandouo SD, Okumura J. Effect of the 2014/2015 Ebola outbreak on reproductive health services in a rural district of Guinea: an ecological study. *Trans R Soc Trop Med Hyg*. 2017; 111(1):22–9.
18. Delamou A, El Ayadi AM, Sidibé S, Delvaux T, Camara BS, Sandouo SD, Beavogui AH, Rutherford GW, Okumura J, Zhang WH, De Brouwere V. Effect of Ebola virus disease on maternal and child health services in Guinea: a retrospective observational cohort study. *Lancet Glob Health*. 2017;5(4): e448–57.
19. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, Rubin GJ. The Psychological Impact of Quarantine and How to Reduce It: Rapid Review of the Evidence. *The Lancet*. 2020;395:10227(912-920); Available at SSRN 3532534. .
20. Chynoweth SK, Amsalu R, Casey SE, McGinn T. Implementing sexual and reproductive health care in humanitarian crises. *Lancet*. 2018;391(10132): 1770–1.
21. Cook RJ, Dickens BM. Reducing stigma in reproductive health. *Int J Gynecol Obstet*. 2014;125(1):89–92.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.