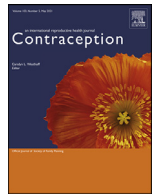




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Commentary

Addressing contraceptive needs exacerbated by COVID-19: A call for increasing choice and access to self-managed methods[☆]Lisa B. Haddad^{a,*}, Saumya RamaRao^a, Avishek Hazra^b, Harriet Birungi^c, Jim Sailer^a^a Population Council, New York, NY, USA^b Population Council, New Delhi, India^c Population Council, Nairobi, Kenya

ARTICLE INFO

Article history:

Received 24 July 2020

Received in revised form 16 March 2021

Accepted 18 March 2021

Keywords:

COVID-19

Contraceptive pipeline

Reproductive choice

Self-administered contraceptive

Self-care

ABSTRACT

The COVID-19 pandemic has exposed the vulnerability of global contraception provision, exacerbating the barriers to access reproductive health services, leading to suspension of clinical services and disruption of supply chains. Critical to combatting this crisis is the expansion of healthcare to include self-care approaches to de-medicalize contraception and increase an individual's agency in determining what method they use, when they use it, and where they obtain it. Expanding the mix of self-administered contraceptives is essential for ensuring choice, access, and availability. We highlight advances in the self-care movement and actions needed to strengthen self-management approaches to maximize our chances of preventing a reproductive health crisis.

© 2021 Elsevier Inc. All rights reserved.

Background

We are at the tipping point of a global reproductive health crisis. The COVID-19 pandemic has exposed the vulnerability of global contraception provision, where the model of reliance on face-to-face provider-client interactions has crumbled due to overwhelmed healthcare systems, increased work burden for front-line workers, community concerns for viral exposure, increased fear of visiting health facilities, and needs for social distancing and travel restrictions.

This pandemic has exacerbated the barriers to access reproductive health services, led to suspension of clinical services and disruption of supply chains [1]. With a 10% decline in use of short and long-acting reversible contraceptives, the Guttmacher Institute has estimated an additional 48 million individuals at risk of pregnancy will have an unmet need for contraceptives and over 15 million will experience an unintended pregnancy [2]. Others have predicted even higher declines in access to reproductive healthcare [3], which is consistent with our own observations in many coun-

tries in which we work. These sobering estimates are a wake-up call and require us to reevaluate our approach to contraceptive service delivery.

The silver lining of this pandemic, if there is any, is that it offers an opportunity to pivot the provision of contraception services. After decades providing both short and long-acting reversible contraceptives, over 200 million individuals desiring to avoid pregnancy still remain at risk as they are not using effective contraception [4] and we know that many individuals would welcome alternatives to provider-dependent methods. Our field is moving toward an increasing model of self-care, to de-medicalize contraception practice to normalize its use and support individuals' agency in determining what method they use, when they use it, and where they obtain it. We should draw on this crisis to advance the concept of self-care in contraception provision as a way to avoid some of the most negative effects of the pandemic cited above, and to sustain and increase usage of contraceptive methods by individuals who wish to use them.

What is self-care?

Self-care is a not a new concept. The World Health Organization (WHO) defines "self-care as the ability of individuals, families and communities to promote health, prevent disease, maintain health, and cope with illness and disability with or without the support of a healthcare provider" [5]. This definition of self-care covers three interconnected but distinct aspects: self-management, self-testing, and self-awareness. In this commentary, we focus on

[☆] Declaration of Competing Interest: All authors work with the Population Council, a non-profit organization that develops contraceptives including self-managed contraceptive rings such as Annovera® and the progesterone vaginal ring described in this paper. All authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

* Corresponding author.

E-mail address: lhaddad@popcouncil.org (L.B. Haddad).

the self-management aspect whereby users use health technologies to maintain or achieve health. In the sexual and reproductive health (SRH) space, this includes self-administered contraceptives such as condoms, oral contraceptives, patches, vaginal rings, self-injectables and diaphragms for pregnancy prevention, self-sourced/self-managed abortion, and self-testing for HIV and other STIs.

Self-care emphasizes human rights, ethics, and gender equality while valuing principles of choice and autonomy [5] by providing essential knowledge and resources to empower individuals to manage their own health per their needs, preferences, and values. Self-care also recognizes the weaknesses inherent in many health systems ranging from human resource shortages, dependence on travel, and supply chain vulnerability, to inadequate infrastructure to financing gaps, weaknesses now magnified by the COVID-19 pandemic. The self-care concept is aligned with a health systems perspective where users and professional health providers jointly work to achieve good health outcomes [6]. Family planning programs have increasingly relied on task-shifting and task-sharing that moved provision “closer to the client” and to redress shortages in health providers. Self-care can amplify this trend by including drug store vendors, pharmacists and pharmacy technicians, proprietary and patent medicine vendors, and other community-based outlets as these points of care are preferred by users and can specifically enhance the capacity for self-management of contraception. Users can access their contraceptive technologies from these points of care for self-administration within the privacy and convenience of their homes, should that be the approach they choose. Self-administration is a *sine qua non* for self-care, but is not sufficient to enable self-management. Expansion of community-based provision offers opportunity for the seamless integration of self-administered contraceptive products into these points of care, supporting the self-care model by providing additional options for self-management to meet individuals’ reproductive health needs. For example, in India since 2005 with the development of the National Rural Health Mission, task-shifting to community level workers has helped reduce physical and social barriers faced by individuals and families. Similarly, in 2011, the Government of India aimed to improve contraceptive access by allowing Accredited Social Health Activists (ASHA) to serve as “depot holders” for condoms, oral contraceptive pills, and emergency contraceptive pills within their communities. Self-care could lead to radical rethinking of contraceptive supply chains from being one of manufacture-distributor-provider to one of retailing. Increased deployment of telehealth interventions and digital applications offer greater choice of providers and service outlets that can increase consumer access and provide resources to support self-managed care.

Research and development designed to support self-care by expanding choice in self-administered contraceptives

The Population Council, an international research non-profit organization that invented and developed leading provider-dependent contraceptives [7], including the Copper T intrauterine device, the levonorgestrel-releasing intrauterine system, and the contraceptive implant, has more recently developed contraceptive products that are self-administered such as the Progering, a progesterone vaginal ring for use during breastfeeding [8] and Anovera, a 1-year progestin-estrogen combined vaginal system [9]. We engage in basic science and social and market research to glean insights about consumer needs and preferences for health technologies in pregnancy, HIV, and sexually transmitted infection (STI) prevention. Many of our technologies under development are self-administered, including pills, micro-needle patches, vaginal rings, fast-dissolving vaginal inserts, and male contracep-

tive gels with several multipurpose technologies to provide protection for multiple needs such as protection from pregnancy and STIs and/or HIV. PATH, a sister nonprofit organization, has introduced other self-administered contraceptives, notably Sayana Press [10], the Woman’s Condom [11], and the SILCS diaphragm [12]. Most recently, Phexxi a new vaginal nonhormonal birth control gel developed by Evofem Biosciences, and Twirla, a new weekly patch developed by Agile Therapeutics, have received approval from the United States Food and Drug Administration (FDA), thus expanding self-administered pericoital contraceptive options. These self-administered contraceptives under development are social products that increase individuals’ agency and autonomy [13] – they give clients control over their reproduction and just as important control over how they interact with the health system.

Call to action

To respond effectively to the challenges that the COVID-19 crisis has exposed, we call on family planning advocates, donors, researchers, health educators, policy makers, and providers to invest and commit to de-medicalize contraception and enhance the contraceptive method mix to ensure access and options for individuals globally. Our call echoes that for increasing access to self-managed abortion through reducing barriers and implementing new no-test protocols [14,15].

To realize fully the benefits of de-medicalization and self-care, users of self-administered contraceptives will need support to ensure proper product use. Support may be in the form of accessible comprehensive contraceptive information and referrals through digital apps and telehealth. Hence, we call for increased investment in implementation research to accompany the large-scale roll-out of self-administered contraceptives as wider swathes of potential users are reached to validate the lessons on feasibility and acceptability learnt from pilot research studies. This will provide insight to where adjustments have to be made in intervention design, refinement of strategies to reach appropriate market segments, and document impact.

Moreover, while self-administered contraceptives offer greater user autonomy, they must be appropriately financed so that consumers can avail them at reasonable prices without large out-of-pocket expenditures. Furthermore, policies need to recognize self-care as an essential element of the healthcare ecosystem to expand choice for how individuals receive care. Supporting self-care as an extension of the formal healthcare system can allow appropriate design and application along with monitoring and evaluation, which are important in maintaining quality of care.

While the Population Council and many of its partners seek to shift control to the hands of users, this requires consistent and enhanced investment in product development and refining existing products. This necessitates substantial resources to support development of new methods, optimizing manufacturing to reduce the costs for existing methods, and exploring novel ways for distribution of methods. On the ground, we must work to enhance approaches toward self-care solutions to address uptake, support proper use, and handle side effects, while we increase access through increasing sources where products can be sought outside of healthcare settings. Furthermore, to maximize quality family planning provision, we need well designed implementation science research to evaluate programs and inform expansion.

Taken together, this call to action can support individuals’ choices in a way that increases their agency, supports their reproductive health, and manages to accomplish this in the COVID-19 environment, when even meeting with one’s healthcare provider can be a fraught issue.

References

- [1] Riley T, Sully E, Ahmed Z, Biddlecom A. Estimates of the potential impact of the COVID-19 pandemic on sexual and reproductive health in low- and middle-income countries. *Int Perspect Sex Reprod Health* 2020;46:73–6.
- [2] Lindberg LD, VandeVuss A, Mueller J, Kirstein M. Early Impacts of the COVID-19 pandemic: Findings from the 2020 Guttmacher survey of reproductive health experiences. New York, NY: Guttmacher Institute; 2020. Accessed March 16, 2021. Available at: <https://www.guttmacher.org/report/early-impacts-covid-19-pandemic-findings-2020-guttmacher-survey-reproductive-health>.
- [3] Methodology for calculating impact of COVID-19, London, United Kingdom: Marie Stopes International; 2020. Accessed March 16, 2021 Available at: <https://www.mariestopes.org/resources/methodology-for-calculating-impact-of-covid-19>.
- [4] Sully E, Biddlecom A, Darroch JE, Riley T, Ashford LD, Lince-Deroche N, et al. Adding It up: investing in sexual and reproductive health in low and middle-income countries, 2019, New York, New York: The Guttmacher Institute; 2020. Accessed March 16, 2021 Available at: <https://www.guttmacher.org/report/adding-it-up-investing-in-sexual-reproductive-health-2019.5>.
- [5] . WHO consolidated guideline on self-care interventions for health: sexual and reproductive health and right. Geneva, Switzerland: World Health Organization; 2019. p. 8. page Accessed March 16, 2021 Available at: .
- [6] Narasimhan M, Allotey P, Hardon A. Self care interventions to advance health and wellbeing: a conceptual framework to inform normative guidance. *BMJ* 2019;365:1688.
- [7] Townsend J, Sitruk-Ware R, RamaRao S, Sailer J. Contraceptive technologies for global health: ethically getting to safe, effective and acceptable options for women and men. *Drug Deliv Transl Res* 2020;10(2):299–303.
- [8] RamaRao S, Clark H, Merkatz R, Sussman H, Sitruk-Ware R. Progesterone vaginal ring: introducing a contraceptive to meet the needs of breastfeeding women. *Contraception* 2013;88(5):591–8.
- [9] Gemzell-Danielsson K, Sitruk-Ware R, Creinin MD, Thomas M, Barnhart K, Creasy G, et al. Segesterone acetate/ethinyl estradiol 12-month contraceptive vaginal system safety evaluation. *Contraception* 2019;99(6):323–8.
- [10] Cover J, Ba M, Lim J, Drake JK, Daff BM. Evaluating the feasibility and acceptability of self-injection of subcutaneous depot medroxyprogesterone acetate (DMPA) in Senegal: a prospective cohort study. *Contraception* 2017;96(3):203–10.
- [11] Coffey PS, Kilbourne-Brook M, Austin G, Seamans Y, Cohen J. Short-term acceptability of the PATH Woman's Condom among couples at three sites. *Contraception* 2006;73(6):588–93.
- [12] Major I, Boyd P, Kilbourne-Brook M, Saxon G, Cohen J, Malcolm K. A modified SILCS contraceptive diaphragm for long-term controlled release of the HIV microbicide dapivirine. *Contraception* 2013;88(1):58–66.
- [13] Whyte Reynolds S, van der Geest S, Hardon A. Social lives of medicine. Cambridge, United Kingdom: University Press Cambridge; 2002.
- [14] Raymond EG, Grossman D, Mark A, Upadhyay UD, Dean G, et al. Commentary: No-test medication abortion: a sample protocol for increasing access during a pandemic and beyond. *Contraception* 2020;101(6):361–6.
- [15] Vazquez-Quesada L, Shikla A, Vieitez I, Acharya R, RamaRao S. Abortion self-care: a forward-looking solution to inequitable access. *Int Perspect Sexual Reprod Health* 2020;46(1):91–5.