### **Physician Fertility: A Call to Action**

Ariela L. Marshall, MD, Vineet M. Arora, MD, MAPP, and Arghavan Salles, MD, PhD

### Abstract

Infertility is more prevalent in female physicians than in the U.S. general population. While pregnancy and its potential medical and career development consequences among physicians have been explored in the literature, infertility and its consequences remain understudied and unaddressed. Fertility issues are important for all physicians hoping to start families, including male physicians, transgender physicians, single physicians, and physicians with same-sex partners.

Infertility has numerous physical, emotional, and financial consequences and may have a negative impact on physician well-being. Options to preserve fertility (such as egg, embryo, and sperm cryopreservation) are available, yet physicians may not be aware of or have the financial ability to make use of such resources. Physician reproductive health, including the ability to build a family if and when a physician chooses, is a vital aspect of well-being. The risks and consequences of infertility and the management of fertility should be studied and addressed from policy and advocacy standpoints.

The authors, who have experienced and sought treatment for infertility, bring attention to the challenges around both

physician infertility and preservation of fertility. They propose 3 strategies to address physician infertility: increasing fertility education and awareness starting at the undergraduate medical education level and continuing throughout training and practice, providing insurance coverage for and access to fertility assessment and management, and offering support for those undergoing fertility treatments. The authors believe that implementing these suggestions would make a significant positive impact on trainees and practicing physicians and help build a health care workforce that is healthy and well physically, emotionally, and financially.

Estimates suggest that 1 in 4 female physicians will suffer from infertility, well above the estimated incidence (9%–18%) in the U.S. general population. Physician fertility and family planning, however, are rarely discussed as part of formal education during medical school, residency, or subsequent practice. While pregnancy and its potential medical and career development consequences among physicians have been explored in the literature, infertility and its consequences remain understudied and unaddressed.

The most comprehensive study of physician fertility to date found that a substantial percentage of female physicians would have attempted to conceive earlier (53.3%) or would have used cryopreservation to preserve fertility

Please see the end of this article for information about the authors.

Correspondence should be addressed to Ariela L. Marshall, Mayo Clinic, Division of Hematology, Mayo Bldg. 10th floor, 10-90E, 200 First St. SW, Rochester, MN 55905; telephone: (507) 284-8634; email: marshall.ariela@mayo.edu.

#### Acad Med. 2020;95:679-681.

First published online November 12, 2019 doi: 10.1097/ACM.000000000003079

Copyright © 2019 by the Association of American Medical Colleges

An AM Rounds blog post on this article is available at academicmedicineblog.org.

(16.7%) had they known infertility would be an issue. Another study reported that many female academic professionals who postponed childbearing to allow for professional advancement ended up "involuntarily childless" due to misconceptions about the risk of infertility. Though studies have not specifically explored fertility in male physicians, transgender physicians, single physicians, or physicians with same-sex partners, fertility issues are important for all physicians hoping to start families.

As female physicians who have personally experienced and sought treatment for infertility, we seek to raise awareness of the challenges around both physician infertility and preservation of fertility (via cryopreservation of eggs, embryos, or sperm). In this Invited Commentary, we recommend strategies for addressing infertility to help trainees and practicing physicians who may face these issues in the future.

### **Consequences of Infertility**

The lack of physician education on the risks and consequences of infertility exacerbates its potential emotional, physical, and financial impacts. Individuals/couples seeking fertility preservation or treatment for infertility may experience emotional distress,

which may manifest as anxiety, guilt, loss of hope, loss of control, bereavement, and stigmatization. <sup>4,5</sup> One need only imagine a person/couple going through frequent lab testing, ultrasounds, multiple expensive daily injections, and surgical egg retrieval procedures (often without success) to understand the personal devastation that can ensue. The lack of structured policies regarding protected time for fertility treatments only compounds the sense of isolation and guilt many physicians may experience while struggling with infertility.

Among female physicians, infertility, high-risk pregnancies, and miscarriages have been associated with higher rates of burnout—as a cause, a consequence, or both.6 Evidence suggests female physicians may already be at higher risk of burnout than their male colleagues due to multiple factors, including work-life integration and gender bias.7 These issues have not been studied specifically in female physicians with infertility, but it is reasonable to assume that the physical and emotional consequences of infertility may have a profound impact on burnout and overall physician well-being. Additionally, the economic burden ("financial toxicity"8) of treatment is high: a single cycle of in vitro fertilization (IVF) can cost \$20,000 or more and is often not covered by

health insurance. Many individuals/ couples using IVF undergo several cycles with total costs reaching \$100,000 or more. The emotional and financial costs of IVF are important for physicians-in-training to understand before their fertility declines with age.

Fertility should not be a factor that limits women's engagement in the medical workforce. Women's contributions in medicine are undeniable, especially in light of recent evidence suggesting patients treated by female physicians may have improved outcomes compared with those treated by male physicians.9 Therefore, it is essential to understand how infertility and its consequences may affect female physicians' ability to do their jobs. The risks and consequences of infertility and the management of fertility among all physicians are topics that merit study and should be addressed from policy and advocacy standpoints. In addition to calling for further research, we propose 3 strategies to address physician infertility: increase education and awareness about fertility, provide insurance coverage for and access to fertility assessment and treatments, and offer support to physicians and trainees undergoing fertility treatments.

### Strategies to Address Physician Infertility

## Increase education and awareness about fertility

We recommend the development and implementation of formal training in fertility awareness and management, beginning in undergraduate medical education and continuing throughout residency and practice. The American College of Obstetricians and Gynecologists (ACOG) and the American Society for Reproductive Medicine (ASRM) offer excellent online educational resources regarding the evaluation and management of fertility. 10,11 These resources could form the backbone for fertility education tailored for physicians at all levels of training and practice. Medical students, residents, and practicing physicians should be made aware of the relatively high incidence of physician infertility, the emotional and financial aspects of fertility workup and management, and options for fertility preservation, including cryopreservation.

# Provide insurance coverage for and access to fertility assessment and management

Beyond education and awareness, it is critical that physicians and trainees have access to affordable fertility assessment and management. They should have the opportunity to meet with a reproductive medicine specialist for a fertility checkup, which could involve a detailed reproductive history and family history and an assessment of ovarian reserve and/or sperm quality, as appropriate. Such a checkup would help trainees and practicing physicians make educated decisions about their own fertility and family planning.

Among residents, pregnancy has been associated with negative workplace attitudes, including anger, resentment, and lack of support, and maternity leave has been associated with lower peer evaluation scores after return to work. 12-14 Given the significant time commitment required for many fertility treatments, these treatments may similarly generate negative emotions and evaluations. To minimize concern about time away from work and possible stigmatization by peers and leadership, fertility checkups and management could be scheduled for new trainees and faculty by default as part of routine health maintenance. To facilitate this, all academic and private practice institutions that employ practicing physicians or sponsor training programs for medical students, residents, or fellows should contract with insurance providers to offer coverage that defrays the steep costs not only for fertility treatments but also for cryopreservation for those wishing to plan families in the future.

### Offer support for trainees and physicians undergoing fertility treatments

Fertility treatments are often difficult and isolating; they are accompanied by emotional, financial, and physical strain. It is essential that health care institutions offer appropriate psychological support and time coverage for physicians and trainees seeking treatment for infertility. For example, institutions should provide financial as well as time support for counseling visits with mental health providers for those struggling with infertility-related anxiety and depression; institution-sponsored support groups may be helpful as well.

To fully support trainees and physicians desiring to have families, flexible work

policies and clinical coverage should be provided for those who must miss clinical time for fertility workup and treatment. This is particularly important for female practicing physicians who are older—and therefore at higher risk of infertility—but subject to clinical obligations that make fertility treatments challenging. Family/ parental health leave (ideally paid) for physicians who must be absent for such treatments is also important. With regard to trainees, the Accreditation Council for Graduate Medical Education suggests written policies regarding maternity/paternity leave be included in institutional well-being plans,15 reflecting the growing recognition of trainee wellbeing as an important component of the clinical learning environment. We hope that in the future accreditation bodies and professional societies will consider all aspects of parental health—including fertility management—when evaluating institutional approaches to trainee and faculty well-being.

Increased awareness on the part of institutional leaders may improve empathy and understanding and, ideally, promote creation of innovative programs for fertility support for medical students, residents, fellows, and practicing physicians. ACOG, ASRM, and other professional associations and groups involved in fertility management should consider adapting their educational materials into accessible modules to improve fertility awareness among leaders in both the clinical and educational spheres. Providing these leaders with a better understanding of fertility treatments would enable them to better support faculty and trainees seeking leave for fertility management.

#### In Sum

Infertility is a prevalent, and in many cases preventable, condition among physicians. The literature regarding fertility education and management for physicians is limited. The lack of institutional policies related to insurance coverage and leave for trainees and practicing physicians undergoing fertility treatments should be addressed. Physicians should receive education on the incidence, causes, consequences, and treatment of physician infertility starting in medical school and continuing through graduate medical education and beyond. This education should be

coupled with access to reproductive medicine specialists for fertility checkups and insurance coverage for fertility treatments or cryopreservation given the long time horizon of medical training. Finally, institutional support should be provided for individuals undergoing fertility workup and treatment. We believe implementing these strategies would make a significant positive impact on the well-being of trainees and practicing physicians and contribute to building a health care workforce that is healthy and well physically, emotionally, and financially. Future research should aim to collect data on physicians' fertilityrelated needs to improve the experience of medical trainees and practicing physicians dealing with this common health challenge. As physicians who have had to face the possibility of being "involuntarily childless," we firmly believe that everyone deserves the chance to have a family if and when desired. Our profession should not stand in the way.

Acknowledgments: The authors wish to acknowledge the helpful review and commentary from 2 colleagues, Dr. Emily Jungheim (associate professor, Reproductive Endocrinology and Infertility, Washington University in St. Louis) and Dr. Asima K. Ahmad (Fertility Centers of Illinois). Neither was paid for their assistance.

Funding/Support: None reported.

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

**A.L. Marshall** is associate professor of medicine, Division of Hematology, Department of Internal Medicine, and assistant professor, Department of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, Minnesota; ORCID: http://orcid.org/0000-0001-7388-0422.

**V.M. Arora** is professor and associate chief medical officer–clinical learning environment, University of Chicago Medicine, Chicago, Illinois.

**A. Salles** is a scholar in residence, Stanford University School of Medicine, Stanford, California.

#### References

- 1 Stentz NC, Griffith KA, Perkins E, Jones RD, Jagsi R. Fertility and childbearing among American female physicians. J Womens Health (Larchmt). 2016;25:1059–1065.
- 2 Chandra A, Martinez GM, Mosher WD, Abma JC, Jones J. Fertility, family planning, and reproductive health of U.S. women: Data from the 2002 National Survey of Family Growth. Vital Health Stat 23(25). Washington, DC: National Center for Health Statistics; 2005. https://www.cdc.gov/nchs/ data/series/sr\_23/sr23\_025.pdf. Accessed October 21, 2019.
- 3 Kemkes-Grottenthaler A. Postponing or rejecting parenthood? Results of a survey among female academic professionals. J Biosoc Sci. 2003;35:213–226.
- 4 Cousineau TM, Domar AD. Psychological impact of infertility. Best Pract Res Clin Obstet Gynaecol. 2007;21:293–308.
- 5 Patel A, Sharma PSVN, Kumar P. "In cycles of dreams, despair, and desperation": Research perspectives on infertility specific distress in patients undergoing fertility treatments. J Hum Reprod Sci. 2018;11: 320–328.
- 6 Győrffy Z, Dweik D, Girasek E. Reproductive health and burn-out among female physicians: Nationwide, representative study from Hungary. BMC Womens Health. 2014;14:121.

- 7 Templeton K, Bernstein CA, Sukhera J, et al. Gender-based differences in burnout: Issues faced by women physicians. NAM Perspectives. Washington, DC: National Academy of Medicine; 2019. https://doi.org/10.31478/201905a. Accessed October 21, 2019.
- 8 Katz P, Showstack J, Smith JF, et al. Costs of infertility treatment: Results from an 18-month prospective cohort study. Fertil Steril. 2011;95:915–921.
- 9 Tsugawa Y, Jena AB, Figueroa JF, Orav EJ, Blumenthal DM, Jha AK. Comparison of hospital mortality and readmission rates for Medicare patients treated by male vs female physicians. JAMA Intern Med. 2017;177:206–213.
- 10 The American College of Obstetricians and Gynecologists. Clinical guidance and publications. https://www.acog.org/Clinical-Guidance-and-Publications/Search-Clinical-Guidance. Accessed October 21, 2019.
- 11 American Society for Reproductive Medicine. Infertility. https://www.asrm. org/topics/topics-index/infertility. Accessed October 21, 2019.
- 12 Finch SJ. Pregnancy during residency: A literature review. Acad Med. 2003;78:418–428.
- 13 Krause ML, Elrashidi MY, Halvorsen AJ, McDonald FS, Oxentenko AS. Impact of pregnancy and gender on internal medicine resident evaluations: A retrospective cohort study. J Gen Intern Med. 2017;32: 648–653.
- 14 Altieri MS, Salles A, Bevilacqua L, et al. Perceptions of surgery residents about parental leave during training. JAMA Surg. 2019;154:952–958.
- 15 Konopasek L, Bernstein C. Inventory of elements of your institutional well-being plan. https://www.acgme.org/Portals/0/PDFs/Webinars/DIOWell-BeingInventoryACGME2016.pdf?ver=2018-09-17-091328-113. Accessed October 21, 2019.