# OSU – College of Osteopathic Medicine

# Inequities in Medically Assisted Reproduction: A Scoping Review



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## INTRODUCTION

Infertility affects one in five women in the United States.¹ With the exception of advancing age and increasing BMI, it was found that infertility rates were comparable across various races/ethnicities, educational backgrounds, and household income brackets.

2-4 However, the rates at which women seek treatment for infertility correlate with socioeconomic status, higher education, and whether or not they were insured.⁴

Healthcare inequities are defined as systematic differences in access to healthcare between populations due to specific characteristics pertaining to each group. Studies show that historically marginalized patients are less likely to seek treatment for infertility, emphasizing the economic burden of these treatments on patients. In general, research indicates that certain social inequities majorly influence the health, well-being, and quality of life of affected patients with infertility.

# IMPORTANCE & OBJECTIVES

Infertility has a high prevalence in the United States and health inequities play a large role in access to medically assisted reproduction (MAR). The aim of this study was to identify gaps in research pertaining to inequities in MAR, and propose suggestions for future research directions.

#### **METHODS**

Searches were performed using MEDLINE and Ovid Embase. Articles that reported on MAR inequities, published between 2016–2021 in the United States, and written in English were included. The inequities investigated were adapted from the NIH-designated health disparities populations. Each article's inequity findings were extracted and reported, along with frequencies of inequities.

Figure 1. PRISMA Flow Diagram Table 1. Inequities Examined in Included Studies Race/Ethnicity 5,318 articles returned (n=45) 68.2%Sex or Gender ► 917 duplicates excluded (n=4) 6.1%LGBTQ+ Exclusions (n=15) 22.7%4,401 articles screened (n = 4,305, with rationale)1522 wrong topic \$ Income 918 wrong outcome (n=30) 45.5%857 wrong year 178 wrong population **Education** 75 wrong study design (n=22) 33.3%16 foreign language 96 articles retained for Rural/Underserved data extraction Exclusions (n=5) 7.6%(n = 30, with rationale)12 wrong study design 9 wrong outcome Occupational Status 4 wrong topic (n=5) 7.6%3 articles unobtainable 2 wrong country 66 articles from which data were extracted Figure 2. Study Designs of Included Studies With Respect to Inequities Examined Systematic Review/Meta-analysis (n=1) Cohort Study (n=18) Retrospective Database Review (n=13) Literature Review (n=10 Cross-sectional Analysis (n=22) Figure 3. Frequency of Inequities Examined Over Time Figure 4. Frequency of Studies Investigating Sexual and Gender Minorities **Inequities since 2016** Race/Ethnicity Income Education

# FINDINGS

Our sample included 66 studies. The majority of the studies investigated MAR outcomes by race/ethnicity, and found that historically marginalized populations had poorer outcomes. LGBTQ+ populations were less likely to use MAR or seek infertility care. Most studies found positive correlations with MAR use with income and education. The least commonly studied inequities in our sample were sex and/or gender and rural/under-resourced populations; findings showed that men and people from rural/under-resourced populations were less likely to access MAR. Studies that examined occupational status had varying findings.

## CONCLUSION

We suggest that future research be targeted toward: (1) standardizing and diversifying race/ethnicity reporting regarding MAR, (2) the use of community-based participatory research to increase data for LGBTQ+ patients, and (3) increasing access to infertility care for men.

## REFERENCES

- l. Infertility. Published March 3, 2022. Accessed July 26, 2022. https://www.cdc.gov/reproductivehealth/infertility/index.htm
- 2. Broughton DE, Moley KH. Obesity and female infertility: potential mediators of obesity's impact. Fertil Steril. 2017;107(4):840-847.
- 3. Crawford NM, Steiner AZ. Age-related infertility. Obstet Gynecol Clin North Am. 2015;42(1):15-25.
- 4. Kelley AS, Qin Y, Marsh EE, Dupree JM. Disparities in accessing infertility care in the United States: results from the National Health and Nutrition Examination Survey, 2013-16. Fertil Steril. 2019;112(3):562-568.
- 5. Insogna IG, Ginsburg ES. Infertility, Inequality, and How Lack of Insurance Coverage Compromises Reproductive Autonomy. *AMA J Ethics*. 2018;20(12):E1152-E1159.
- 6. Bouwmans CAM, Lintsen BAME, Al M, et al. Absence from work an emotional stress in women undergoing TVF or ICSI: an analysis of IVF-related absence from work in women and the contribution of general and emotional factors. *Acta Obstet Gynecol Stand.* 2008;87(11):1169-1175.
- National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Population Liealth and Public Health Practice, Committee on Community-Based Solutions to Promote Health Equity in the United States. *Communities in Action: Pathways to Health Equity*. (Baciu A, Negussie Y, Geller A, Weinstein JN, eds.). National Academies Press (US); 2017.
- 8. Social determinants of health. Accessed June 28, 2022. https://health.gov/healthypeople/priority-areas/social-determinants-health