Contraception 115 (2022) 22–26

Contents lists available at ScienceDirect

Contraception

journal homepage: www.elsevier.com/locate/contraception

Original Research Article

# Exploring financial stress and resource deprivation as barriers to preferred contraceptive use in Wisconsin in 2021 ☆,☆☆

Laura E.T. Swan[a,b,*], Hoa Vu[a], Jenny A. Higgins[b,c,d], Leeann M. Bui[e], Kristen Malecki[a], Tiffany L. Green[a,b,c]

[a] Department of Population Health Sciences, University of Wisconsin-Madison, Madison, WI, United States
[b] Collaborative for Reproductive Equity (CORE), University of Wisconsin-Madison, Madison, WI, United States
[c] Department of Obstetrics and Gynecology, University of Wisconsin-Madison, Madison, WI, United States
[d] Department of Gender and Women's Studies, University of Wisconsin-Madison, Madison, WI, United States
[e] Department of Medicine, University of Wisconsin-Madison, Madison, WI, United States

ARTICLE INFO

*Article history:*
Received 20 April 2022
Received in revised form 27 July 2022
Accepted 29 July 2022

*Keywords:*
Contraceptive preference
COVID-19
Food insecurity
Housing instability
Reproductive autonomy
Socioeconomic resources

ABSTRACT

*Objective:* This study assessed a broad array of socioeconomic barriers in relation to preferred contraceptive use during a time of exacerbated personal and social financial strain (the COVID-19 pandemic).
*Study Design:* Using statewide data collected in early 2021 through the Survey of the Health of Wisconsin, we conducted bivariate analyses exploring the relationship between socioeconomic resources and preferred contraceptive use among Wisconsin women.
*Results:* The survey garnered 1889 responses, with a response rate of 34%. The sample for the current study ($N = 247$) included only adult women of reproductive age who reported current contraceptive use. Nearly one-third (32.8%) of contraceptive users reported that they were not using their preferred method. We found that greater resource deprivation, including housing instability (had to relocate: $p = 0.004$; unable to pay rent and/or mortgage: $p = 0.008$), food insecurity (ran out of food: $p = 0.003$; worried about running out of food: $p = 0.008$), and greater financial stress ($p < 0.001$), were significantly associated with lowered likelihood of using one's preferred contraceptive method.
*Conclusions:* Findings indicated that people lacking socioeconomic resources, including adequate food and housing, may be unable to access their preferred contraceptive method(s). Amidst competing demands on time and resources, the inability to obtain preferred contraceptive method(s) may represent system-wide barriers as well as people's lowered ability to prioritize and access care in light of socioeconomic struggles.
*Implications:* Health care providers and health systems should work to address structural barriers to care and bolster community resources in ways that promote patients' reproductive autonomy. There is also a need for continued research on specific socioeconomic determinants of preferred contraceptive use and potential solutions that bolster community resources.



## 1. Introduction

Access to safe, reliable, and acceptable methods of contraception is a critical component of comprehensive reproductive health care. Contraceptive access promotes reproductive autonomy and the ability to achieve desired fertility, reduces pregnancy-related deaths, decreases the risk of certain reproductive cancers, and allows for the treatment of many menstrual-related symptoms [1,2]. However, research on contraceptive use has traditionally focused on contraceptive uptake, adherence, and/or effectiveness rather than on the ability to access one's *preferred* contraceptive method(s), which scholars have recently argued is a more accurate measure of reproductive autonomy [3,4]. Therefore, to ensure patient-centered access, it is critical to understand the barriers to and determinants of preferred contraceptive use.

Research has documented that high contraceptive costs and inadequate insurance coverage are common barriers to contraceptive access in general and use of preferred contraceptive method in particular [5,6]. Specifically, having insurance coverage and lower

☆ Declaration of Competing Interest: The author declares no conflict of interest.
☆☆ Funding: Funding for the Survey of the Health of Wisconsin (SHOW) was provided by the Wisconsin Partnership Program PERC Award (233 AAG9971).
* Corresponding author.
*E-mail addresses:* lswan2@wisc.edu (L.E.T. Swan), hxvu@wisc.edu (H. Vu), jenny.a.higgins@wisc.edu (J.A. Higgins), leeann.bui@wisc.edu (L.M. Bui), kmalecki@wisc.edu (K. Malecki), tlgreen2@wisc.edu (T.L. Green).

https://doi.org/10.1016/j.contraception.2022.07.014
0010-7824/

costs of contraceptive care increase the likelihood of using contraception [3,7,8], whereas lower income and socioeconomic status (i.e., a combined indicator of income and education) are associated with decreased likelihood of using one's preferred method [9,10]. While these financial factors are known barriers to contraceptive access, very limited research has explored broader, more structural socioeconomic barriers to preferred contraceptive use. For example, although a few studies have indicated that people experiencing homelessness face barriers to contraceptive use [11–13], we know little about how housing instability and other forms of socioeconomic disadvantage (e.g., food insecurity, financial stress) may impact the ability to access the preferred contraceptive method(s). Without this information, we have an insufficient understanding of socioeconomic barriers to care, how to address these barriers, and ultimately promote reproductive autonomy.

This study addresses this knowledge gap by assessing a broader array of socioeconomic barriers in relation to preferred contraceptive use. The COVID-19 pandemic provides pertinent context in which to consider these issues due to its exacerbation of longstanding financial and health inequities [14–17] and the myriad challenges it has presented to patients and healthcare systems [16,18]. In this context of the pandemic, this study explores a broad array of socioeconomic barriers to preferred contraceptive use using a unique source of statewide survey data. Specifically, to provide a path forward for research and intervention that promotes patient-centered contraceptive access, we explored the relationship between socioeconomic resources and preferred contraceptive use during the pandemic among a sample of adult Wisconsin women[1] of reproductive age.

## 2. Materials and Methods

This study uses data collected as a part of the ongoing, longitudinal Survey of the Health of Wisconsin (SHOW). Researchers have administered SHOW surveys over 14 years, using findings to assess and address a variety of health and wellbeing indicators and disparities. As described in detail elsewhere [19,20], probability-based cluster sampling approaches were used to establish the cohort and to recruit a state-representative sample of Wisconsin adults. Beginning in June 2020, SHOW conducted a series of 3 consecutive COVID-19 "Impact Surveys" to examine longitudinal changes in social determinants of health throughout the pandemic [21]. Participants from across Wisconsin were recruited from a pool of prior participants in the SHOW program from 2008 to 2020 [21]. The current study used data from the second wave, which was conducted in January-February 2021. Wave 2 participants were invited to participate via the email address or phone number they provided at previous survey waves. A total of 1889 people participated in online or phone surveys in this survey wave. All participants received a $25 electronic gift card. The SHOW data collection procedures are approved by the Institutional Review Board at the University of Wisconsin-Madison; we used a public use data file for this secondary data analysis.

The current cross-sectional analysis used a sample of adult women of reproductive age (18–49 years) who reported current contraceptive use ($N = 247$). Based on SHOW's probability sampling strategy and a comparison of the study participants to US Census population reports [22], which show that the sample demographics closely match those of adult women of reproductive age in the Wisconsin population, this study sample is representative of the target population. Participants reported their current contraceptive method(s), choosing 1 or more methods from a list: birth control pill, condom, diaphragm, intrauterine device (IUD), permanent contraception (tubal ligation/vasectomy), and other. The primary variable of interest was a dichotomous measure of preferred contraceptive use (0=not using preferred contraceptive method, 1=using preferred contraceptive method).

Several indicators of access to socioeconomic resources were also included in the current analysis. Specifically, we asked participants their pre-tax household income (with 10 categories ranging from less than $19,999 to $150,00 or more, with each category recoded to its midpoint for analysis) and how worried they were about losing their job in the next 3 months (1=very worried or somewhat worried; 0=unsure, not very worried, or not worried at all). We also assessed loss of employment due to COVID-19 (0=no, 1=yes) and asked participants if they had used benefits programs since July 2020 (0=no, 1=yes), providing a list of 6 programs: Women, Infants, and Children federal program (WIC); FoodShare Wisconsin program (Wisconsin's version of the food stamp or Supplemental Nutrition Assistance Program [SNAP]); school meals; Supplemental Security Income (SSI); unemployment insurance; food pantry/food boxes. Several items inquired about food insecurity since July 2020, with responses coded as "never true" (=0) or "sometimes" or "often true" (=1): running out of food without money to get more; being worried about running out of food; and being unable to afford balanced meals. We assessed housing instability with 2 items: (1) the inability to pay rent or mortgage due to COVID-19 (0=no; 1=yes) and (2) having had to relocate due to COVID-19 (0=no; 1=yes). We assessed financial stress with the shortened Financial Well-being Scale, which sums 5 items measuring stress and satisfaction with one's financial situation to produce a continuous variable ranging from 0 to 20 [23].

Participants also completed demographic questions, including self-reported race/ethnicity, age, and education level. We excluded missing data through pairwise deletion. Most study variables had no missing data; 6 variables contained minimal missing cases (1–7 missing cases), and 2 variables (household income and worry about losing job) contained 7% ($n = 18$) and 6% ($n = 14$) missing cases, respectively. Our data analysis described the demographic characteristics of our sample, then used chi-square tests (Fisher's exact test where cells <5) and $t$ tests to explore bivariate relationships between socioeconomic resources and preferred contraceptive use. Because our analyses involve multiple comparisons, the likelihood of Type I error (i.e., incorrectly rejecting the null hypothesis) is higher than it would be otherwise. To account for this statistical challenge, we adjusted for multiple comparisons using the Benjamini and Hochberg method of false discovery rate control. In contrast to Bonferroni-type adjustments that calculate the false positive rate, the Benjamini and Hochberg method adjusts for the false discovery rate. The latter approach results in both increased statistical power and imposes a less restrictive set of assumptions than the former [24,25]. All analyses were conducted in Stata 17.

## 3. Results

Out of 5502 past SHOW participants invited to participate in this survey across 3 waves, the Wave 2 survey garnered 1889 responses from men and women aged 18 to 75+ years old (a response rate of 34%, with 1184 participants returning from Wave 1 and 705 new Wave 2 responses). Table 1 presents the demographics for this study sample which is limited to adult Wisconsin women of reproductive age (18–49 years) who reported current contraceptive use ($N = 247$). These demographics closely match those of adult women of reproductive age in the Wisconsin population as a whole [22]. Most participants identified their race/ethnicity as white (79.8%), and the majority of participants were between 36 and 49 years old (69.8%). Level of edu-

[1] Contraception is used by individuals who do not identify as women, including trans men and gender-nonconforming individuals. However, data on contraception use from the Survey of the Health of Wisconsin are not reported by gender identity.

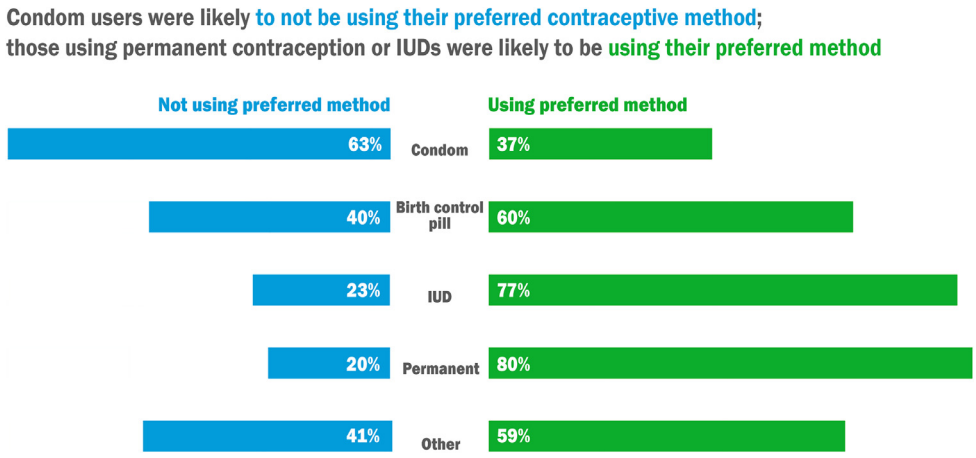


**Fig. 1.** Use of preferred contraceptive method by actual contraceptive method(s) used ($N = 247$).

**Table 1**
Demographics and contraceptive use in 2021 among adult Wisconsin women of reproductive age, currently using contraception ($N = 247$)

| Variable | *n* (%) |
|---|---|
| Age | |
| 18-35 years | 74 (30.0%) |
| 36-49 years | 173 (69.8%) |
| Race/ethnicity | |
| Non-Hispanic Black | 26 (10.5%) |
| Hispanic | 13 (5.2%) |
| Non-Hispanic multiracial/other | 11 (4.4%) |
| Non-Hispanic White | 197 (79.8%) |
| Education | |
| High school/GED | 27 (10.9%) |
| Some college | 40 (16.2%) |
| Associates/occupational/technical degree | 45 (18.2%) |
| Bachelor's degree | 86 (35.0%) |
| Graduate/professional degree | 48 (19.4%) |
| Current contraceptive method(s) used[a] | |
| Birth control pill | 45 (18.2%) |
| Condom | 30 (12.1%) |
| Diaphragm | 0 (0.0%) |
| Intrauterine device (IUD) | 44 (17.8%) |
| Permanent contraception | 89 (36.0%) |
| Other | 51 (20.6%) |
| Currently using preferred contraceptive method | |
| No | 81 (32.8%) |
| Yes | 166 (67.2%) |

[a] Categories are not mutually exclusive

cation was normally distributed, with 35.0% of participants reporting their highest education as a bachelor's degree. Nearly one-third of participants (32.8%) reported that they were not using their preferred contraceptive method. Participants most commonly reported permanent contraception (36.0%) as their current contraceptive method followed by "other" (20.6%), the birth control pill (18.2%), IUDs (17.8%), and condoms (12.1%). Condom users were more likely to not be using their preferred method (63.3% not using preferred method vs 36.7% using preferred method), and participants using permanent contraception (20.2% not using preferred method vs 79.8% using preferred method) or using an IUD (22.7% not using preferred method vs 77.3% using preferred method) were more likely to be using their preferred method (Fig. 1).

Table 2 shows bivariate relationships between preferred contraceptive use and variables assessing socioeconomic resources, indicating that greater socioeconomic resources were associated with the use of preferred contraceptive method(s). Specifically, at $p < 0.05$, greater household income and lower financial stress were associated with use of the preferred contraceptive method(s), whereas those reporting a *loss* in household income due to COVID-19, being unable to pay their rent/mortgage due to COVID-19, or having to relocate due to COVID-19 were less likely to be using their preferred contraceptive method(s). Women who reported running out of food, being worried about running out of food, or being unable to afford balanced meals since July 2020 were less likely to be using their preferred contraceptive method(s). Use of most benefits programs was not significantly associated with preferred contraceptive use. Using the FoodShare Wisconsin program (food stamps/SNAP) was associated with not using the preferred contraceptive method. After adjusting for multiple comparisons, we found that household income, loss in household income, and being unable to afford balanced meals were no longer significantly related to preferred contraceptive use (see Appendix).

## 4. Discussion

In this study, we examined socioeconomic resources in relation to Wisconsin women's preferred contraceptive use during a time of exacerbated personal and social financial strain (the COVID-19 pandemic). We found that participants reporting greater socioeconomic deprivation, including housing instability, food insecurity, and greater stress about finances, were less likely to be using their preferred contraceptive method.

While prior research has made connections between insurance coverage and preferred contraceptive method use [6,26], the current study indicates that the broader socioeconomic contexts in which people live are also powerful in shaping one's access to preferred contraceptive methods. These novel findings are supported by adjacent research linking financial deprivation to increased stress [27,28]. Similarly, research has linked stress to decreased contraceptive adherence and use of less effective contraceptive methods [29–31]. The inability to obtain the preferred contraceptive method may represent both system-wide barriers to easily accessible, full-spectrum contraceptive care [5], as well as a lowered ability to prioritize and access that care in light of socioeconomic struggles. As suggested by existing research linking housing instability to contraception [11–13], it is likely that socioeconomic deprivation creates competing priorities in which people who would otherwise prefer to use contraception are unable to prioritize their health needs, contraception and otherwise. This study extends this finding to include other socioeconomic stressors, including food instability, and describes the potential impact of these factors in the context of the pandemic.

Difficulties affording and accessing the preferred contraceptive method(s) may also be related to recent changes to family planning funding mechanisms, in which the Trump administration's

**Table 2**
Wisconsin women's socioeconomic resources by preferred contraceptive use during COVID-19 ($N = 247$)

| Socioeconomic Resources | Preferred Contraceptive Use ($n$ (%) or $M$ ($SD$)) | | Bivariate relationship (resources x preferred contraceptive use) | |
|---|---|---|---|---|
| | No ($n = 81$) | Yes ($n = 166$) | $p$-value | Significant after controlling for false discovery rate [d] |
| Household income, midpoints | $71,840 (47,526) | $87,022 (46,078) | 0.02 [c] | No |
| Worried about losing job (yes) | 13 (48.1%) | 14 (51.9%) | 0.09 [a] | No |
| *Since July 2020* | | | | |
| Worried about running out of food (yes) | 25 (48.1%) | 27 (51.9%) | 0.01 [a] | Yes |
| Ran out of food (yes) | 22 (52.4%) | 20 (47.6%) | <0.01 [a] | Yes |
| Couldn't afford balanced meals (yes) | 21 (46.7%) | 24 (53.3%) | 0.02 [a] | No |
| Financial stress (0–20) | 9.86 (5.10) | 6.82 (5.09) | <0.01 [c] | Yes |
| Used benefits program | | | | |
| Women, Infants, and Children (yes) | 7 (46.7%) | 8 (53.3%) | 0.24 [a] | No |
| FoodShare (yes) | 20 (48.8%) | 21 (51.2%) | 0.02 [a] | Yes |
| School meals (yes) | 23 (33.8%) | 45 (66.2%) | 0.83 [a] | No |
| Supplemental Security Income (yes) | 2 (40.0%) | 3 (60.0%) | 0.66 [b] | No |
| Unemployment insurance (yes) | 12 (40.0%) | 18 (60.0%) | 0.37 [a] | No |
| Food pantry (yes) | 12 (40.0%) | 18 (60.0%) | 0.37 [a] | No |
| *Due to COVID-19* | | | | |
| Lost job (yes) | 7 (53.8%) | 6 (46.2%) | 0.10 [a] | No |
| Loss in household income (yes) | 27 (45.0%) | 33 (55.0%) | 0.03 [a] | No |
| Unable to pay rent/mortgage (yes) | 16 (53.3%) | 14 (46.7%) | 0.01 [a] | Yes |
| Had to relocate (yes) | 8 (72.7%) | 3 (27.3%) | 0.01 [b] | Yes |

[a] Chi-square test
[b] Fisher's exact test
[c] $t$ test
[d] See appendix for false discovery rate calculations

2019 "domestic gag rule" led to a reduction in access to federally funded Title X programs that many low-income women rely on for affordable care [32]. In Wisconsin, as a result of the domestic gag rule, 17 facilities lost Title X funding, and there was an 80% decrease in female contraceptive patients served between 2018 and 2020 [33]. Although the Biden-Harris administration revoked the domestic gag rule in 2021, these findings highlight the importance of public policy in protecting reproductive autonomy for marginalized populations.

It is unclear how programs aimed at reducing economic hardship during the pandemic (e.g., economic impact payments, student loan relief, increased unemployment benefits) may have impacted contraceptive access. These programs could reduce resource strain for low-income Americans, but strict and/or cumbersome eligibility requirements could prevent those who most need financial assistance from accessing these resources [34]. Other solutions to promote full-spectrum contraceptive access in the context of personal and social financial strain, including the economic insecurity and healthcare disruptions caused by the pandemic [16], could include increasing the availability of telemedicine and over-the-counter contraception. In response to the pandemic, many organizations are expanding these care options, and preliminary research indicates that most people receiving pandemic contraceptive care via telemedicine report being satisfied with the care and highlight its convenience [35]. Continued research is needed to elucidate the pathways through which these socioeconomic factors and resource deprivation may be linked to contraceptive access and reproductive autonomy.

### 4.1. Limitations and Strengths

This study has several limitations. First, our cross-sectional data do not allow for the assessment of temporal order or causal inferences. Future longitudinal studies could better describe the impact of socioeconomic constraints and stressors, including COVID-19, on patient-centered contraceptive access and could explore causal pathways from socioeconomic deprivation to contraceptive outcomes. Second, our sample size and limited racial and gender diversity limit the generalizability of our findings and our ability to draw conclusions about whether women of color and noncisgender (e.g., transgender and nonbinary) people experience disparities in access to preferred contraceptive method(s). Future data collection should oversample people of color and/or gender expansive populations in order to investigate disparities in contraceptive access. The small sample size also limited our ability to conduct meaningful regression analyses, which is why the current study used bivariate analyses only. At the same time, given the sampling frame of SHOW, results are generalizable to women of reproductive age in Wisconsin as a whole. Further, due to its location in the midwestern United States, where family planning access is under assault [36], the state of Wisconsin provides fertile context for understanding barriers to access.

This survey only assessed preferred contraceptive use for those people who reported using any contraceptive method. This allows us to draw important connections between socioeconomic resources and use of preferred contraceptive method(s) for people using contraception, but it fails to capture the experiences of people who are not using any contraception. Since *any* contraceptive use is a distinct construct from *preferred* contraceptive use, future research should assess preferred contraceptive use for all participants who can become pregnant. The current study builds on prior examinations that have focused on insurance status as a primary indicator of contraceptive affordability [3,5–7], whereas this study was focused on expanding conceptions of affordability to more broad indicators of socioeconomic resources. Future research could build on these findings by including insurance status as well as these broader measures of socioeconomic resources and by investigating potential interactions between these factors. Additionally, many of the measures of socioeconomic resources used single-item or unvalidated measures, which could impact the validity of the findings. Future research could build on these findings by measuring these constructs with established instruments. Finally, our measurement strategy and bivariate analysis of socioeconomic resources across several constructs introduces the issue of multiple comparisons, which increases the chance of finding statistically significant relationships between variables when no such relation-

ship exists. We addressed this limitation by adjusting our analyses using the Benjamini and Hochberg method of false discovery rate control and found that our substantive conclusions remained similar. Future studies could build on the current research using refined measurement techniques, more substantial samples, and more sophisticated analysis strategies (e.g., regression analysis).

Despite these limitations, this study highlights novel socioeconomic barriers to preferred contraceptive access. Specifically, we have described the role of income, financial stress, food insecurity, and housing instability in Wisconsin women's ability to access contraception. Moreover, in this study, we have focused on preferred contraceptive use, which is a more relevant indicator of reproductive autonomy than common outcome measures such as contraceptive uptake, adherence, or effectiveness.

### 4.2. Conclusion

This study makes important contributions regarding patient-centered contraceptive access in a time of exacerbated financial strain, indicating that people who lack socioeconomic resources, including adequate food and housing, may be unable to access their preferred contraceptive method(s). Amidst competing demands on time and resources, the inability to obtain preferred contraception may represent both system-wide barriers and lowered ability to prioritize and access care in light of socioeconomic struggles. There is a need for continued research on socioeconomic determinants of preferred contraceptive use and potential solutions. Initiatives that bolster community resources to reduce poverty and provide social service benefits could promote full-spectrum contraceptive access and increase reproductive autonomy.

## Acknowledgments

The authors would also like to thank the University of Wisconsin investigators who developed the COVID-19 Community Impact Surveys, SHOW administrative, field, and scientific staff, as well as all the SHOW participants for their contributions to this study.

## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.contraception.2022.07.014.

## References

[1] Maguire K, Westhoff C. The state of hormonal contraception today: established and emerging noncontraceptive health benefits. Am J Obstet Gynecol 2011;205:S4–8. doi:10.1016/j.ajog.2011.06.056.
[2] Kavanaugh ML, Anderson RM. Contraception and beyond: the health benefits of services provided at family planning centers. 2013.
[3] Kavanaugh ML, Pliskin E. Use of contraception among reproductive-aged women in the United States, 2014 and 2016. F&S Reports 2020;1:83–93. doi:10.1016/j.xfre.2020.06.006.
[4] Bryson A, Koyama A, Hassan A. Addressing long-acting reversible contraception access, bias, and coercion: supporting adolescent and young adult reproductive autonomy. Curr Opin Pediatr 2021;33:345–53. doi:10.1097/MOP.0000000000001008.
[5] Coleman-Minahan K, Dillaway CH, Canfield C, Kuhn DM, Strandberg KS, Potter JE. Low-Income Texas Women's Experiences Accessing Their Desired Contraceptive Method at the First Postpartum Visit. Perspect Sex Reprod Health 2018;50:189–98. doi:10.1363/psrh.12083.
[6] He K, Dalton VK, Zochowski MK, Hall KS. Women's Contraceptive Preference-Use Mismatch. J Womens Health 2017;26:692–701. doi:10.1089/jwh.2016.5807.
[7] Nearns J. Health insurance coverage and prescription contraceptive use among young women at risk for unintended pregnancy. Contraception 2009;79:105–10. doi:10.1016/j.contraception.2008.08.004.
[8] Snyder AH, Weisman CS, Liu G, Leslie D, Chuang CH. The impact of the affordable care act on contraceptive use and costs among privately insured women. Womens Health Issues 2018;28:219–23. doi:10.1016/j.whi.2018.01.005.
[9] Chakraborty P, Gallo MF, Nawaz S, Smith MH, Hood RB, Chettri S, et al. Use of nonpreferred contraceptive methods among women in Ohio. Contraception 2021;103:328–35. doi:10.1016/j.contraception.2021.02.006.
[10] Burke KL, Potter JE, White K. Unsatisfied contraceptive preferences due to cost among women in the United States. Contracept X 2020;2:100032. doi:10.1016/j.conx.2020.100032.
[11] Corey E, Frazin S, Heywood S, Haider S. Desire for and barriers to obtaining effective contraception among women experiencing homelessness. Contracept Reprod Med 2020;5:12. doi:10.1186/s40834-020-00113-w.
[12] Kennedy S, Grewal M, Roberts EM, Steinauer J, Dehlendorf C. A qualitative study of pregnancy intention and the use of contraception among homeless women with children. J Health Care Poor Underserved 2014;25:757–70. doi:10.1353/hpu.2014.0079.
[13] Wukasch J. Creating a community-based protocol to prevent unintended pregnancy in homeless women in north central Appalachia. Appl Nurs Res 2021:151487. doi:10.1016/j.apnr.2021.151487.
[14] Liao TF, de Maio F. Association of social and economic inequality with coronavirus disease 2019 incidence and mortality across US counties. JAMA Netw Open 2021;4:e2034578. doi:10.1001/jamanetworkopen.2020.34578.
[15] Lin TK, Law R, Beaman J, Foster DG. The impact of the COVID-19 pandemic on economic security and pregnancy intentions among people at risk of pregnancy. Contraception 2021;103:380–5. doi:10.1016/J.CONTRACEPTION.2021.02.001.
[16] Lindberg LD, VandeVusse A, Mueller J, Kirstein M. Early Impacts of the COVID-19 Pandemic: findings from the 2020 Guttmacher Survey of Reproductive Health Experiences 2020. doi:10.1363/2020.31482.
[17] Tan AX, Hinman JA, Abdel Magid HS, Nelson LM, Odden MC. Association Between Income Inequality and County-Level COVID-19 Cases and Deaths in the US. JAMA Netw Open 2021;4:e218799. doi:10.1001/jamanetworkopen.2021.8799.
[18] Allsbrook J. The Coronavirus Crisis Confirms That the U.S. Health Care System Fails Women. Center for American Progress 2020.
[19] Nieto FJ, Peppard PE, Engelman CD, McElroy JA, Galvao LW, Friedman EM, et al. The Survey of the Health of Wisconsin (SHOW), a novel infrastructure for population health research: rationale and methods. BMC Public Health 2010;10:785. doi:10.1186/1471-2458-10-785.
[20] Malecki KMC, Nikodemova M, Schultz AA, LeCaire TJ, Bersch AJ, Cadmus-Bertram L, et al. The Survey of the Health of Wisconsin (SHOW) Program: An Infrastructure for Advancing Population Health. Front Public Health 2022;10. doi:10.3389/fpubh.2022.818777.
[21] Malecki KMC, Schultz AA, Nikodemova M, Walsh MC, Bersch AJ, Cronin J, et al. Statewide Impact of COVID-19 on Social Determinants of Health - A First Look: Findings from the Survey of the Health of Wisconsin. MedRxiv 2022. doi:10.1101/2021.02.18.21252017.
[22] U.S. Census Bureau. QuickFacts: Wisconsin n.d. Available at: https://www.census.gov/quickfacts/fact/table/WI/PST040221#PST040221 (accessed March 22, 2022).
[23] Consumer Financial Protection Bureau. CFPB Financial Well-Being Scale: Scale development technical report. 2017.
[24] Benjamini Y, Hochberg Y. Controlling the false discovery rate: a practical and powerful approach to multiple testing. J R Stat Soc Ser B 1995;57:289–300. doi:10.1111/j.2517-6161.1995.tb02031.x.
[25] Glickman ME, Rao SR, Schultz MR. False discovery rate control is a recommended alternative to Bonferroni-type adjustments in health studies. J Clin Epidemiol 2014;67:850–7. doi:10.1016/j.jclinepi.2014.03.012.
[26] Wright KQ. Contraceptive selection and practice: Associations with self-identified race and socioeconomic disadvantage. Soc Sci Med 2020;266. doi:10.1016/j.socscimed.2020.113366.
[27] Bossarte RM, Blosnich JR, Piegari RI, Hill LL, Kane V. Housing instability and mental distress among US veterans. Am J Public Health 2013;103:S213–16. doi:10.2105/AJPH.2013.301277.
[28] Coffino JA, Spoor SP, Drach RD, Hormes JM. Food insecurity among graduate students: prevalence and association with depression, anxiety and stress. Public Health Nutr 2021;24:1889–94. doi:10.1017/S1368980020002001.
[29] Caetano C, Peers T, Papadopoulos L, Wiggers K, Engler Y, Grant H. Millennials and contraception: why do they forget? An international survey exploring the impact of lifestyles and stress levels on adherence to a daily contraceptive regimen. Eur J Contracept Reprod Health Care 2019;24:30–8. doi:10.1080/13625187.2018.1563065.
[30] Hall KS, White KO, Rickert VI, Reame N, Westhoff C. Influence of depressed mood and psychological stress symptoms on perceived oral contraceptive side effects and discontinuation in young minority women. Contraception 2012;86:518–25. doi:10.1016/j.contraception.2012.04.010.
[31] Hall KS, Moreau C, Trussell J, Barber J. Role of young women's depression and stress symptoms in their weekly use and nonuse of contraceptive methods. J Adolesc Health 2013;53:241–8. doi:10.1016/j.jadohealth.2013.02.009.
[32] Planned Parenthood. Title X: Affordable Birth Control and Reproductive Health Care n.d. Available at: https://www.plannedparenthoodaction.org/issues/health-care-equity/title-x (accessed February 14, 2022).
[33] Fowler C. Title X Family Planning Annual Report 2020 National Summary 2020.
[34] Herd P, Moynihan DP. Administrative Burden: Policymaking by Other Means. Russell Sage Foundaton; 2019.
[35] Stifani BM, Smith A, Avila K, Boos EW, Ng J, Levi EE, et al. Telemedicine for contraceptive counseling: Patient experiences during the early phase of the COVID-19 pandemic in New York City. Contraception 2021;104:254–61. doi:10.1016/j.contraception.2021.04.006.
[36] Planned Parenthood. State Attacks on Sexual and Reproductive Health n.d.