Non communicable diseases

Social and Behavioral Determinants of Dental Care Utilization among Homeless Pregnant Women in the United States

DINA ABDO[1], SANJA AVRAMOVIC[1], JANUSZ WOJTUSIAK[1], PANAGIOTA KITSANTAS[1]
[1] Department of Health Administration and Policy, College of Public Health, George Mason University

Key words

Homeless women • Pregnant women • Dental health • Dental preventive care • Dental care utilization

Summary

Introduction. *Despite modest research on oral healthcare during pregnancy, there is a dearth of evidence describing dental care among pregnant women experiencing homelessness. The purpose of this study was to examine associations between dental care utilization and social and behavioral determinants of health among United States (US) pregnant women who experienced homelessness relative to those who did not.*
Methods. *This was a cross-sectional study that used data from the 2012-2018 Pregnancy Risk Assessment Monitoring System (PRAMS). The sample consisted of 5,939 homeless and 209,942 non-homeless women. Bivariable and multivariable analyses were conducted to determine associations between dental health-related measures and social and behavioral determinants of health based on whether a woman experienced homelessness 12 months prior to birth.*
Results. *In this sample, 41.2% of homeless women saw a dentist for a problem while this was true for only 19.1% of women who were not homeless. Approximately 36.4% of women who experienced homelessness did not have their teeth cleaned before pregnancy compared to 25.7% of women who were not homeless. Lack of preventive care, smoking, older age, and experiencing multiple stressors during pregnancy were positively associated with seeing a dentist during pregnancy for both groups of women.*
Conclusion. *The results indicate the need for healthcare providers and policy officials to develop targeted interventions and policies to ensure that dental care is readily accessible for all pregnant women and especially those who are homeless.*

Introduction

It is estimated that only 22-34% of pregnant women in the United States (US) visit a dentist during their pregnancy, and when a problem occurs, only 50% seek dental care [1]. These rates are even lower depending on race/ethnicity, education, and income [2]. Recent research evidence shows that socioeconomic disparities in oral health care exist among disadvantaged pregnant women with extensive dental problems during pregnancy and postpartum [2]. Low socioeconomic status, poor mental health, homeless or at risk of homelessness, substance abuse, and incarceration can have adverse effects on oral health and access to quality dental care among pregnant women. Homeless women in particular tend to have low levels of knowledge about best practices for good oral health and have a higher likelihood of not being able to receive preventive services or curative treatment [3].
Limited research, however, exists on oral healthcare utilization among women who have experienced homelessness around the time of pregnancy. Since pregnancy is a critical period for health behavior change, especially for oral health, more research is needed to shed some light on factors that influence dental care utilization and oral health in women who have experienced homelessness around the time of pregnancy. Information generated from such studies can be used for targeted intervention and prevention programs. The purpose of this study was to examine associations between dental care utilization and social and behavioral determinants of health among US pregnant women who experienced homelessness relative to those who did not.

Methods

Data Source

The Pregnancy Risk Assessment Monitoring System (PRAMS) is conducted by the Centers for Disease Control and Prevention (CDC) Division of Reproductive Health. PRAMS collects data on pregnant women related to their pregnancy experiences, birth outcomes, and the postpartum period. The CDC and states are using PRAMS to monitor changes in maternal and child health indicators and to measure progress toward improving the health of mothers and their children [4].
In the present study, PRAMS data from 2012-2018 were used. The sample included 215,881 observations with 5,939 (2.75%) of the sample being homeless 12 months prior to giving birth and 209,942 (97.2%) of the sample not being homeless. The homeless women within the study were identified based on the following PRAMS

question: "During the 12 months before your new baby was born, I was homeless or had to sleep outside, in a car, or in a shelter."

Measures

The outcome variable dental care utilization during pregnancy was measured using the survey question "During your most recent pregnancy did you see a dentist for a problem?" The independent measures selected for this study were categorized into social determinants of health, dental health, and behavioral determinants. Social determinants of health measures were selected based on previous research and included the following: Maternal age, marital status, race/ethnicity, education, and the use of services from the Women, Infants, and Children (WIC) during pregnancy [5]. The dental health variables were pre-pregnancy teeth cleaned, the importance of caring for teeth and gums, and access to dental insurance.

The behavioral determinants measures included drinking during pregnancy, smoking during pregnancy, medical risk factors, number of prenatal visits, and number of stressors.

Marital status was composed of married and not married. Race/ethnicity included non- Hispanic white, non-Hispanic black, non-Hispanic other, and Hispanic women. Education included three categories, ≤11 years of education, 12 years/high school and ≥13 years of education. WIC participation during pregnancy was recoded as no or yes. Pre-pregnancy teeth cleaning was assessed based on the question "Twelve months before pregnancy did you get your teeth cleaned?". In addition, the importance of caring for gums and teeth was assessed based on the question "During your most recent pregnancy were there problems with gums and teeth?", and access to dental insurance was coded as yes or no. Drinking and smoking during pregnancy were coded as yes or no. Medical risk factors (*e.g.,* gestational diabetes, hypertension, etc.) were coded as yes or no, and the number of prenatal visits included three categories, < = 8 visits, 9-11 visits, and 12 or more visits. The number of stressors variable was comprised of three levels, namely no stressors, 1-2 stressors, and 3 or more stressors.

Data Analysis

Descriptive statistics were used to evaluate the sample characteristics and dental care utilization in pregnant homeless and non-homeless women. Analyses using the chi-squared test were conducted to determine if there are any statistically significant associations between dental care utilization and each of the independent variables across the two groups of women. Logistic regression analyses were conducted to evaluate the association of homeless pregnant women's social determinants of health, dental health, and behavioral determinants with dental care utilization. These analyses were also conducted for those who were not homeless. The statistical analyses were conducted using STATA, version 17 [6] and findings at $p < 0.05$ were considered to be statistically significant. All of the analyses were weighted to account for the complex survey design of PRAMS.

Results

Table I illustrates the distribution of characteristics of women based on whether they experienced homelessness 12 months prior to giving birth. In this sample, 41.2% of women who were homeless saw a dentist for a problem while this was true for only 19.1% of women who were not homeless. Approximately 36.0% of women who experienced homelessness did not have their teeth cleaned before pregnancy compared to 25.7% of women who were not homeless. A large portion (48.2%) of 25–34-year-old women experienced homelessness. The importance of caring for teeth/gums was higher among non-homeless women (77.3% versus 70.9%).

Approximately, 59.9% of the homeless women and 65.5% of the non-homeless had dental insurance.

A high proportion of homeless women were non-Hispanic white (43.3%), non-Hispanic black (32.9%), and about 26.1% of women who were homeless only had high school education or less. Similarly, a high proportion of women who were not homeless were non-Hispanic white (61.7%). Over 61.1% of women who were homeless utilized WIC during their pregnancy. A slightly larger number of homeless women (22.6%) reported medical risk factors during pregnancy compared to their non-homeless counterparts (19.3%). Homeless women were also less likely to have at least 12 prenatal visits (36.1%) relative to the non-homeless group (52.1%) and were more likely to report smoking during pregnancy. In this sample, over 92.2% of homeless women reported 3 or more stressors while only 26.3% of the non-homeless women reported a such number of stressors.

Associations between sample characteristics and seeing a dentist for a problem during pregnancy among homeless and non-homeless women are displayed in Table II. Significant associations emerged for both groups between seeing a dentist for a problem and dental insurance, race/ethnicity, marital status, WIC services, and stressors. Lack of pre-pregnancy teeth cleaning was significantly associated with seeing a dentist for a problem, and it was particularly more evident among the homeless group of women (64.6%) compared to the group who did not experience homelessness (22.2%). Similarly, 34.9% of homeless women who were Hispanic saw a dentist for a problem during their pregnancy while only 18.3% of non-homeless Hispanic women visited their dentist for a problem. Among homeless women with 3 or more stressors, 42.3% saw a dentist for a problem while 28.8% of non-homeless women with 3 or more stressors saw a dentist for a problem.

Logistic regression analysis was conducted to evaluate the factors that influence dental care (seeing a dentist for a problem) separately for homeless and non-homeless women during pregnancy (Tab. III). Homeless women who did not have their teeth cleaned had 1.39

Tab. I. Sample Characteristics based on Experiencing Homelessness 12 Months Prior to Birth.

	Experienced homelessness 12 months prior to birth n = 5,939 Unweighted n (Weighted %)	Did not experience homelessness 12 months prior to birth n = 209,942 Unweighted n (Weighted %)
See dentist for problem		
No	2,928 (58.8)	147,064 (80.9)
Yes	2,091 (41.2)	36,580 (19.1)
Pre-pregnancy teeth cleaned		
No	2,313 (36.4)	59,636 (25.7)
Yes	1,482 (24.8)	79,949 (37.0)
Unknown	2,144 (38.8)	70,357 (37.3)
Important to care for teeth/gums		
No	842 (13.3)	21,262 (9.57)
Yes	4,197 (70.9)	164,329 (77.3)
Unknown	900 (15.7)	24,351 (13.1)
Dental insurance		
No	1,457 (22.4)	45,900 (20.4)
Yes	3,481 (59.9)	137,577 (65.5)
Unknown	1,001 (17.7)	26,465 (14.1)
Maternal age		
Less than 24 years old	2,511 (42.7)	54,453 (24.5)
25-34 years old	2,864 (48.2)	119,999 (58.4)
More than 35 years of age	563 (9.11)	35,486 (17.1)
Married		
Not Married	4,578 (78.2)	82,093 (37.1)
Married	1,329 (21.8)	127,266 (62.9)
Ethnicity/race		
Non-Hispanic White	1,871 (43.3)	102,610 (61.7)
Non-Hispanic Black	2,117 (32.9)	35,959 (13.4)
Non-Hispanic Other	941 (8.35)	31,535 (9.36)
Hispanic	804 (15.4)	34,242 (15.5)
Maternal education		
≤ 11 Years of Education	1,522 (26.1)	27,787 (12.4)
12 years/High School	2,226 (38.8)	50,877 (23.7)
≥ 13 years	2,098 (35.1)	128,932 (63.9)
WIC* services during pregnancy		
No	1,157 (19.2)	97,690 (47.8)
Yes	3,600 (61.1)	79,165 (33.8)
Unknown	1,182 (19.6)	33,087 (18.4)
Drinking during pregnancy		
Yes	264 (4.45)	9,908 (4.87)
No	3,496 (56.2)	129,202 (57.6)
Unknown	2,179 (39.4)	70,832 (37.5)
Smoking during pregnancy		
Yes	2,162 (35.1)	20,542 (8.77)
No	3,679 (64.9)	187,492 (91.2)
Medical risk factors		
No	4,297 (77.4)	157,573 (80.7)
Yes	1,573 (22.6)	50,331 (19.3)
Number of prenatal visits		
≤8	2,175 (35.8)	42,297 (16.9)
9-11	1,598 (28.1)	62,420 (31)
12+	1,883 (36.1)	98,095 (52.1)
Number of stressors		
No Stressors	N/A**	63,194 (31.5)
1-2	450 (7.76)	88,256 (42.2)
3 or more	5,489 (92.2)	58,492 (26.3)

* Women, Infants, and Children (WIC). ** N/A - no value for the group.

(95% CI: 1.08,1.79) times higher odds of seeing a dentist for a problem compared to women who had their teeth cleaned before their pregnancy. Homeless women between the ages of 25 and 34 years old were also more likely (OR = 1.47 95% CI: 1.18,1.85) to have seen a dentist for a problem compared to women who were less than 24 years old. Utilization of WIC services during pregnancy was significantly associated with a higher likelihood of seeing a dentist for a dental issue (OR = 1.45, 95% CI: 1.11, 1.89) among women who experienced homelessness. Women who smoked and were homeless during their pregnancy had 1.35 (95% CI: 1.07, 1.70) times higher odds of seeing a dentist for a problem. Homeless women who reported 3 or more stressors in their lives had higher odds (OR = 1.98, 95% CI: 1.31, 3.01) of seeing a dentist for a problem relative to those with 1-2 stressors.

Non-homeless women who did not have their teeth cleaned had 1.05 (95% CI: 1.00, 1.10) higher odds of seeing a dentist for a problem compared to women who had their teeth cleaned before their pregnancy. Non-homeless women between the ages of 25 and 34 years old were more likely (OR = 1.22, 95% CI: 1.15,1.28) to have seen a dentist compared to women who were less than 24 years old. Compared to married women, those who were not married were also more likely to see a dentist. Women who were black and non-homeless were also more likely (OR = 1.08, 95% CI: 1.01,1.15) to have seen a dentist for a problem compared to non-Hispanic white women. However, Hispanic women had lower odds of seeing a dentist for a problem (OR = 0.83, 95% CI: 0.78, 0.88) relative to white women. In addition, lower levels of education were associated with a higher likelihood of seeing a dentist for a problem in this group of women. Similarly, to homeless women, non-homeless women who utilized WIC during their pregnancy also had higher odds (OR = 1.67, 95% CI:1.59, 1.76) of seeing a dentist for a problem during their pregnancy compared to women who did not have WIC.

Women who were smokers and non-homeless during their pregnancy had higher odds of (OR = 1.97, 95% CI 1.85, 2.10) seeing a dentist for a problem as well as

Tab. II. Associations between Sample Characteristics and Seeing a Dentist for a Problem During Pregnancy based on Experiencing Homelessness 12 Months Prior to Birth.

	Experienced homelessness 12 months prior to birth			Did not experience homelessness 12 months prior to birth		
	Saw dentist for a problem			Saw dentist for a problem		
	Yes Weighted %	No Weighted %	*p*-value	Yes Weighted %	No Weighted %	*p*-value
Pre-pregnancy teeth cleaned			0.000			0.000
No	64.6	54.3		22.2	77.8	
Yes	35.4	45.7		17.2	82.8	
Unknown	40.5	59.5		18.5	81.5	
Important to care for teeth/gums			0.324			0.539
No	38.6	61.4		19.3	80.7	
Yes	41.7	58.3		19.0	81.0	
Unknown	44.4	55.6		36.1	63.9	
Dental insurance			0.070			0.000
No	44.7	55.3		20.6	79.4	
Yes	40.0	60.0		18.5	81.5	
Unknown	39.0	61.0		23.1	76.9	
Maternal age			0.002			0.000
Less than 24 years old	37.3	62.7		22.1	77.9	
25-34 years old	45.5	54.5		18.5	81.5	
More than 35 years of age	36.8	63.2		16.6	83.4	
Married			0.111			0.000
Not Married	42.1	57.9		24.9	75.1	
Married	37.8	62.2		15.6	84.4	
Ethnicity/race			0.019			0.000
Non-Hispanic White	44.6	55.4		18.1	81.9	
Non-Hispanic Black	39.4	60.6		24.0	76.0	
Non-Hispanic Other	41.8	58.2		20.0	80.0	
Hispanic	34.9	65.1		18.3	81.7	
Maternal education			0.349			0.0000
≤11 Years of Education	41.5	58.5		24.6	75.4	
12 years/High School	43.2	56.8		24.6	75.4	
≥13 years	39.2	60.8		15.9	84.1	
WIC* services during pregnancy			0.023			0.0000
No	35.4	64.6		14.0	86.0	
Yes	42.5	57.5		26.4	73.6	
Unknown	45.5	54.5		18.9	81.1	
Drinking during pregnancy			0.565			0.0000
Yes	36.7	63.3		17.1	82.9	
No	41.9	58.1		19.5	80.5	
Unknown	40.6	59.4		18.5	81.5	
Smoking during pregnancy			0.0000			0.0000
Yes	48.5	51.5		37.8	62.2	
No	37.3	62.7		17.2	82.8	
Medical risk factors			0.2445			0.0000
Yes	43.7	56.3		21.0	79.0	
No	40.5	59.5		18.6	81.4	
Number of prenatal visits			0.4531			0.0000
≤8	41.3	58.7		21.7	78.3	
9-11	42.0	58.0		19.3	80.7	
12+	38.5	61.5		18.0	82.0	
Number of stressors						0.0000
No Stressors	N/A**	N/A**		13.7	86.3	
1-2	27.9	72.1		16.9	83.1	
3 or more	42.3	57.7		28.8	71.2	

* Women, Infants, and Children (WIC) services. ** N/A because homelessness was a stressor.

Tab. III. Logistic Regression Results for Factors Associated with Dental Care (Seeing a Dentist for a Problem) among Women who Experienced Homelessness 12 Months Prior to Birth and Women who did not Experience Homelessness.

	Experienced homelessness 12 months prior to birth		**Did not experience homelessness 12 months prior to birth**	
	Saw dentist for a problem OR (95% CI)	***p*-value**	**Saw dentist for a problem OR (95% CI)**	***p*-value**
Pre-pregnancy teeth cleaned				
No	**1.39 (1.08, 1.79)**	0.009	**1.05 (1.00, 1.10)**	0.043
Yes	Reference		Reference	
Unknown	0.92 (0.36, 2.34)	0.875	1.09 (0.89, 1.34)	0.369
Important to care for teeth/gums				
No	0.85 (0.64, 1.13)	0.271	**0.85 (0.80, 0.91)**	0.000
Yes	Reference		Reference	
Unknown	0.92 (0.22,3.95)	0.919	**2.22 (1.47, 3.33)**	0.000
Dental insurance				
No	1.08 (0.85, 1.37)	0.508	1.02 (0.98, 1.07)	0.251
Yes	Reference		Reference	
Unknown	1.12 (0.51, 2.44)	0.771	0.96 (0.79, 1.16)	0.680
Maternal age				
Less than 24 years old	Reference		Reference	
25-34 years old	**1.47 (1.18, 1.85)**	0.001	**1.22 (1.15, 1.28)**	0.000
More than 35 years of age	0.98 (0.65, 1.46)	0.914	**1.19 (1.11, 1.27)**	0.000
Married				
Not Married	1.06 (0.84, 1.39)	0.525	**1.13 (1.08, 1.19)**	0.000
Married	Reference		Reference	
Ethnicity/race				
Non-Hispanic White	Reference		Reference	
Non-Hispanic Black	0.82 (0.63, 1.06)	0.163	**1.08 (1.01, 1.15)**	0.010
Non-Hispanic Other	0.93 (0.66, 1.29)	0.669	**1.14 (1.07, 1.21)**	0.000
Hispanic	0.75 (0.54, 1.02)	0.072	**0.83 (0.78, 0.88)**	0.000
Maternal education				
≤11 Years of Education	1.12 (0.84, 1.48)	0.424	**1.29 (1.21, 1.38)**	0.000
12 years/High School	1.10 (0.86, 1.40)	0.427	**1.27 (1.21, 1.34)**	0.000
≥13 years of education	Reference		Reference	
WIC* services during pregnancy				
No	Reference		Reference	
Yes	**1.45 (1.11, 1.89)**	0.006	**1.67 (1.59, 1.76)**	0.000
Unknown	**1.76 (1.10, 2.80)**	0.017	**1.22 (1.12, 1.33)**	0.000
Drinking during pregnancy				
No	Reference		Reference	
Yes	0.955 (0.61, 1.50)	0.843	0.98 (0.91, 1.08)	0.793
Unknown	1.14 (0.46, 2.83)	0.775	0.95 (0.78, 1.17)	0.690
Smoking during pregnancy				
Yes	**1.35 (1.07, 1.70)**	0.011	**1.97 (1.85, 2.10)**	0.000
No	Reference		Reference	
Medical risk factors				
No	Reference		Reference	
Yes	1.11 (0.87, 1.41)	0.366	**1.08 (1.03, 1.13)**	0.000
Number of prenatal visits				
≤8	Reference		Reference	
9-11	1.05 (0.81,1.36)	0.699	0.98 (0.93,1.03)	0.549
12+	0.89 (0.70,1.14)	0.360	**0.94 (0.89, 0.99)**	0.028
Number of stressors				
No Stressors	No value		**0.82 (0.78, 0.86)**	0.000
1-2	Reference		Reference	
3 or more	**1.98 (1.31, 3.01)**	0.001	**1.60 (1.53, 1.68)**	0.000

* Women, Infants, and Children (WIC) services.

those who reported medical risk factors (OR = 1.08, 95% CI: 1.03, 1.13) compared to women who were nonsmokers and those with no medical problems, respectively. Non-homeless women who completed 12 or more prenatal visits had a lower likelihood of seeing a dentist (OR = 0.94, 95% CI: 0.89, 0.99) compared to those with at most 8 prenatal visits. Non-homeless women who reported at least 3 or more stressors had higher odds of seeing a dentist for a problem than those with 1-2 stressors.

However, no stressors were associated with a lower likelihood (OR = 0.82, 95% CI: 0.78, 0.86) of seeing a dentist.

Discussion

The findings of this study show that 41.2% of women who experienced homelessness saw a dentist for a problem and 36.4% had not had a pre-pregnancy teeth cleaning compared to the 19.1% of non-homeless women who saw a dentist for a problem and 25.7% who had their teeth cleaned. These results indicate that women's dental care utilization was higher among women who experienced homelessness 12 months prior to birth primarily for treatment rather than prevention. Overall, prevention-related services such as cleaning teeth were low for both groups but more evident among homeless women. Although research shows that pregnant women use dental services less frequently than the general population [7], underserved populations such as homeless women have difficulty accessing oral health services [3]. Most pregnant women do not receive the oral care they need during pregnancy, and homeless pregnant women in particular are less likely to receive proper oral care [8]. This is due to poor access to dental health insurance or difficulty paying for oral health services and may explain the findings of higher utilization of dental care for dental issues among homeless in this sample. Targeted intervention and prevention programs for this high-risk subpopulation of pregnant women are needed to improve access to oral healthcare and especially preventive services. Patient care education is important for homeless women for proper self-care and for awareness of resources and eligible dental services through government programs such as Medicaid.

In addition, non-homeless women who did not find it important to care for teeth/gums had lower odds of seeing a dentist for a problem than those who did. This was also true for homeless women, although it was not a statistically significant finding in the logistic regression analyses. Lack of interest in oral health and knowledge of adverse health outcomes can increase the risk of poor oral health. In addition, older women were more likely to see a dentist for a problem relative to their younger counterparts. This could be the result of developing more dental issues because the prevalence of cavities is twice as high in older adults [9]. In addition, previous research shows that race can impact the odds of an individual not having a dental visit [10]. In the present study, non-homeless Hispanic women were less likely to see a dentist for a problem compared to white women, and this could be due to a lack of dental insurance, knowledge or value of oral health during pregnancy, fear and safety concerns, as well as lack of prenatal oral health counseling [11]. However, black and Other racial/ethnic groups had a higher likelihood of seeing a dentist for a problem relative to white women. Potential racial/ethnic disparities in dental care and outcomes present a public health challenge that requires multifaceted approaches for this population.

Positive associations were also found between receiving WIC services, higher number of life stressors, smoking and seeing a dentist for a dental issue. Receiving WIC services during pregnancy, low educational levels, and seeking dental services for problems during pregnancy has been reported in previous research studies [10]. Socioeconomic factors such as limited income and education may predispose women to additional life stressors, placing homeless women at particularly high risk for delayed or forgone preventive dental care (McGeough et al. 2020) which in turn may lead to serious dental health issues that may force them to seek care when the issue becomes unbearable. Life stressors such as those faced by women who may experience homelessness around the time of pregnancy may delay critical medical and dental care that could lead to adverse birth outcomes. Stressors can also influence the use of smoking which known to negatively impact oral health.

Limitations

This study has several limitations. Since the PRAMs survey is sent to mothers 2-9 months after delivery, questions about dental care utilization or oral health before pregnancy are prone to recall bias [12]. Recall bias and self-reported data may lead to misclassification errors and biased results. The reasons for a dental visit were not included and thus there is no way to differentiate between women visiting a dentist for a routine preventive visit or an emergency procedure [12]. PRAMS data do not contain specific measures that specify the exact time or frequency a mother was homeless. This may have excluded certain women who suffered from homelessness during short periods of time and may have not been reported leading to potential underestimation of homelessness in this population.

Conclusion

The findings of this study highlighted several factors that may affect dental health utilization among homeless and non-homeless women. Lack of preventive care such as cleaning one's teeth, smoking, older age, and experiencing multiple stressors were positively associated with seeing a dentist during pregnancy for both groups of women. The results indicate the need for healthcare providers and policy officials to develop targeted interventions and

policies, respectively, to ensure that dental care is readily accessible for all pregnant women especially those who are homeless. Efforts among healthcare practitioners to educate pregnant women, and in particular those who are experiencing homelessness, about preventive dental care services are crucial. In addition, it is imperative for state and federal funding to create accessible dental treatment centers for homeless women. Collaboration between homeless centers and dental clinics within communities to provide dental services to homeless pregnant populations may increase access to preventive services and necessary treatment. Evidence-based programs that provide dental healthcare services tailored for homeless women who are pregnant are needed as well. Understanding the complex needs of different populations of pregnant women is necessary for building accessible and equitable dental healthcare services as well as creating training materials and programs for dental care providers who may service these populations.

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Conflict of Interest statement

The authors declare that they have no competing interests.

Authors' contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by DA, PK, SA, JW. The first draft of the manuscript was written by DA and finalized by PK. All authors read and approved the final manuscript.

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Correspondence: Panagiota Kitsantas, Department of Health Administration and Policy, College of Public Health, George Mason University, 4400 University Drive, MS 1J3, Fairfax, VA 22030. E-mail: pkitsant@gmu.edu

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