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Racial and ethnic disparities in internet use for seeking health information among young women

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Abstract

Objectives—To examine the influence of race/ethnicity on seeking health information from the internet among women aged 16–24 years.

Methods—A self-administered survey was conducted on 3181 women regarding their internet use and obtaining information on reproductive health (menstruation, contraception, pregnancy, sexually transmitted infections) and general health from the internet. Multivariate logistic regression was performed to examine the association between race/ethnicity and online health-related information seeking after adjusting for covariates.

Results—Racial/ethnic disparities were noted in overall internet use and its use to locate health information. Overall, more white (92.7%) and black (92.9%) women used the internet than Hispanics (67.5%). More white women (79.2%) used it to find health information than blacks and Hispanics (70.3% and 74.3%, respectively). Compared to white women, blacks and Hispanics were less likely to seek information on contraception [(odds ratio (OR) 0.73, 95% confidence interval (CI) 0.58–0.91) and (OR 0.75, 95% CI 0.61–0.92)], and more likely to seek information on pregnancy tests [(OR 1.67, 95% CI 1.28–2.18) and (OR 1.40, 95% CI 1.09–1.81)] and sexually transmitted infections [(OR 1.39, 95% CI 1.11–1.73) and (OR 1.25, 95% CI 1.01–1.54)] respectively. With regard to general health issues, such as how to quit smoking, how to lose weight, alcohol/drug use, mood disorders, and skin disorders, blacks, but not Hispanics, were significantly less likely to seek online information than whites.

Conclusions—Disparities in the way women from different backgrounds use the internet for health-related information could be associated with overall health awareness.

Keywords

Race/ethnicity; disparity; reproductive-aged; internet use; health information

Introduction

Health disparities between racial/ethnic groups occur as a result of differences in biological vulnerability to diseases, as well as differences in social resources, environmental conditions, and access to health care (1, 2). There is widespread concern about the persistent disparities in reproductive health across different racial/ethnic groups (3, 4). For example, a relatively lower level of contraceptive use has been reported among black and Hispanic women than whites (5, 6). In addition, black and Hispanic women are more likely to suffer

from sexually transmitted infections (STIs) (21 and 2–4 times respectively) and unintended pregnancy (3 and 1.5 times respectively) compared to whites of the same age (7–11).

One of the important contributing factors of these disparities is the differential access to health information (12). Since extensive health information is now available online, it is possible that inequalities in internet access are associated with existing health disparities. This idea is supported by several studies which all showed disparities between racial/ethnic groups in the frequency of using online resources to obtain health-related information (13–15). For example, Brodie et al reported that 34% of whites, but only 19% of blacks, used the internet to obtain health information. Similar observations were made by Millers et al (34% of whites, 19% of blacks and 20% of Hispanics) and Nicholson et al (45% of whites vs. 21% of blacks). However, only one of these studies (15) was on adult women and it was limited to only two racial groups. Furthermore, these studies did not focus on reproductive health, which is a major concern to young women.

The purpose of this study was to examine the extent of online health information seeking by young reproductive-aged women of non-Hispanic white, non-Hispanic black and Hispanics with regard to reproductive and general health, and whether seeking of this information differs by race/ethnicity.

Methods

We conducted a cross-sectional survey of online health information seeking behavior among women 16–24 years of age attending one of five publicly funded reproductive health clinics for a family planning visit between August 2008 and July 2010. Surveys were self-administered and those who agreed to participate were reimbursed \$5 for their time. A research assistant approached patients deemed eligible in the privacy of the examination room, inviting them to complete a health survey. After obtaining oral informed consent, the research assistant left the room during survey completion, returning to retrieve the instrument from the patient when it was completed. To assure that participants completed the survey only once during this two-year interval, study personnel maintained a cumulative database containing the names of those who had previously completed the survey and compared it daily to the names of those appointed for a visit. Women who had previously completed the survey were not approached a second time. All procedures were approved by the institutional review board of the University of Texas Medical Branch.

This study focused on survey questions pertaining to internet use in general and utilizing it to seek different health-related information. Sociodemographic variables were also examined. Race and ethnicity were self-reported with choices including non-Hispanic white, non-Hispanic black, Hispanic, Asian, American Indian/Alaskan native, native Hawaiian/other Pacific Islander, or other. No classification was available for mixed race. We restricted our analysis to non-Hispanic white, non-Hispanic black and Hispanic women due to the limited sample size of other categories. The following demographic predictor variables were measured: age, education, annual income, and marital status. Age was calculated using years and months. Information about education level, marital status, and income per year were also obtained by self-report.

We assessed internet use from the question: “Do you use the internet?” Response options were “yes” or “no”. We then asked those who reported internet use to indicate where they used it (at home, work, school, library, someone else’s home), how long they spent on the internet each day (number of hours), and frequency of use (everyday, a few times a week, or few times a month). Women who did not use the internet were asked about barriers to its use. We also assessed whether or not they obtained health information from the internet for

themselves or for someone else and what health topics for which they sought information. Specifically, we asked about the following types of reproductive health issues: menstrual period, menstrual cramps, menstrual heavy bleeding, overall birth control methods, emergency contraception, pregnancy tests, pregnancy, and STIs. For contraception, we asked one question about birth control, “Have you ever used the internet to find health information about birth control (pills, shots, IUDS etc)?” and another question about emergency contraception, “Have you ever used the internet to find health information about emergency contraception?” We also asked about the following types of general health: risk of smoking/ways to quit smoking, ways to lose weight, drug/alcohol use, anxiety/depression, and skin rash/acne. In addition, we inquired about physical/sexual assault. Possible responses to each topic were “yes” or “no”.

Statistical Analysis

Bivariate comparisons among the three race/ethnic groups being studied were performed using one-way analysis of variance for continuous variables and chi square tests for categorical variables. Multivariate logistic regression analyses were performed to examine the association between race/ethnicity and different types of online health information seeking after adjusting for demographic variables such as age, education, marital status, and annual income. In addition, online information seeking on risk of smoking or ways to quit smoking and ways to lose weight were also adjusted by smoking status and BMI, respectively. The associations are presented as odds ratios (OR), including 95% confidence intervals (CI). All analyses were performed using STATA 10 (Stata Corporation, College Station, TX).

Results

Almost 83% (3181/3835) of women who were invited agreed to participate, yielding 3,181 surveys. However, 126 women who completed only part of the survey did not respond to the questions on internet use to seek health information. The mean age of the 3055 young women included in this analysis was 20.8 years (SD = 2.5, range 16–24 years). Overall, 28.7% ($n = 875$) were non-Hispanic white, 25.6% ($n = 779$) were non-Hispanic black, 44.9% ($n = 1386$) were Hispanic and 0.8% ($n = 15$) from other racial/ethnic groups. The last group was omitted, leaving a sample size of 3040. Compared to white women, Hispanics were slightly older, more likely to be married and less likely to have any college education/degree (Table 1). Black women were less likely than whites to be married and more likely to have a lower income.

Of the total participants, 81.3% (2471/3040) reported internet use with whites and blacks more likely than Hispanic women to report its use (Table 2). White and black women were more likely than Hispanics to have an e-mail account, to be connected with a social network, and to use the internet everyday. Moreover, whites were more likely to use it at home or someone else’s home or at their work place than Hispanics. Compared to white and Hispanic women, blacks were more likely to use the internet at a school or a public library or a community center, and used it for more hours each day. White women were more likely to find health information for themselves than blacks and Hispanics.

About 90% (509/569) of non-internet users provided information about barriers they experienced using the internet (Table 3). The vast majority (80%) of these non-users were Hispanics. Overall, the frequency of different barriers did not differ by race/ethnicity. More than two-thirds of the non-users stated that they did not have computer at home. Other barriers included cost of a computer, lack of interest in using the internet, and lack of computer literacy. White women who did not use the internet indicated that cost was the

main barrier while Hispanic women indicated a lack of expertise in using a computer as the primary obstacle.

Bivariate analysis between race/ethnicity and online health information seeking behavior of internet users showed that white women were more likely than blacks and Hispanics to seek information on birth control methods (Table 4). On the other hand, black women were more likely than whites to seek information on pregnancy tests and STIs while Hispanic women were more likely than whites to seek information on pregnancy tests. The likelihood of seeking information on general health (risk of smoking/ways to quit smoking, ways to lose weight, alcohol/drug use, depression/anxiety, skin rash and acne) was less among black women than whites.

We also conducted multivariate logistic regression analyses, based on internet users, to estimate racial/ethnic disparities with regard to different types of online health information after adjusting for age, education, annual income and marital status (Table 5). By and large, the findings were consistent with that of bivariate analyses, although in some cases of general health seeking information multivariate adjustment eliminated the difference between Hispanics and whites. In the adjusted analyses, disparities were noted by race/ethnicity in the types of information sought online. Regarding reproductive health information, black and Hispanic women sought information less frequently on contraception and more frequently on pregnancy tests and STIs as compared to whites. In addition, black women sought information less often on different types of general health than whites.

Discussion

Overall, we found a much higher percentage of young women from all three racial/ethnic groups searched online for health information than previously reported (13–15). For example, a 2005 study (14) found that 34% of whites, 31% of blacks, and 20% of Hispanics searched online for health information. Lorence et al (16) observed in 2000 that 33%, 24% and 19%, and in 2002 that 44%, 35% and 35% of whites, blacks, and Hispanics respectively used the internet and to obtain health information. Baker et al (17) reported that approximately 40% of respondents with internet access actually used the internet to look for advice or information about their health based on a 2001 national survey. In contrast, we found that 93% of white and black women and 68% of Hispanic women used the internet while 74.5% of these internet users searched online for health information. This difference in rates between our study and those conducted previously could be due to the fact that internet use is highest among young people (18) and our study was based on adolescents and young adults of 16–24 years age. Another reason could be increased access over time to the internet among all populations (16, 19).

In spite of this increase in internet use, however, we noted that racial/ethnic disparities still exist in the use of this resource among young women. We observed that a relatively low percentage of young Hispanic women used the internet, and were less likely than women from the other two groups to use the internet at home, use it everyday, have an e-mail account or be connected with a social network. This study adds to the literature by demonstrating that the most common reason for this difference is a lack of expertise among many young Hispanic women in using this relatively new technology. In addition, we observed that a lower percentage of Hispanic young women obtain health information from the internet than whites. This is in agreement with two previous studies (14, 16) which found that fewer Hispanic adults obtain health information from the internet as compared to blacks and whites.

Regarding reproductive health, young black and Hispanic women were less likely to seek contraceptive-related information and more likely to seek pregnancy test and STI-related information online than whites. These racial/ethnic disparities may be due to several factors. First, young black and Hispanic women are reported to be highly influenced by friends, family and partners for gathering information and making decisions regarding contraception (20, 21). They consider the information from these informal sources more reliable and convincing than the information from health care professionals (20, 22). This lack of trust in the information from health care professionals may extend to the internet. Second, greater information seeking on pregnancy tests and STIs among black and Hispanic women could be due to significantly higher rates of unintended pregnancy (9–11) and STIs (7, 8) in these two groups. Finally, young women of minority groups may feel uncomfortable asking their health care providers questions about these sensitive issues or may desire more information than that provided by their health care providers. The privacy of the internet makes it an ideal resource for seeking information related to these issues.

Similarly, our finding that black women were less likely than whites to seek all types of general health related information from the internet, is in agreement with Nicholson et al's observation that blacks prefer to obtain health information from informal sources, such as family, friends, or religious organizations (15, 23). However, it is not known why they prefer these informal sources. Several studies have speculated that a difference in reading levels between groups could be a determining factor as web-based health education materials are written, on average, at or above a 10th grade reading level (24, 25). However, the similar educational levels of the two groups in our study do not support this idea. Other factors could be distrustfulness of online health information, lack of content of interest in health-related web-sites, and lack of exposure to the internet on a daily basis (13). For example, Hispanics in this study were less likely to seek anxiety/mood disorders related information than whites after adjusting for confounders. This may have been due to a lack of interest in this topic as a national survey of psychiatric disorders in US adults showed that Hispanics have a significantly lower risk of anxiety/mood disorders (26) than whites.

On the basis of the disparities identified in this study, new ways of presenting information on the websites may better reach to the specific group of young reproductive-aged women. Lorence et al also suggested new strategies and interventions to identify underserved minority groups and help them develop information seeking skills relevant to their healthcare (16). Another study recommended development of web sites that include relevant health information for users from a variety of races/ethnicities as well as materials understandable by users with low literacy levels (13). Others have suggested culturally sensitive materials on health web sites for minority groups which present information in a format that reflects their beliefs, practices, and values, and encourage them for a greater use of online information (25, 27).

This study has several limitations. First, all participants self-reported their internet use to obtain health information. Second, our cross-sectional design prevents the examination of causal relationships. Third, our study population was limited to 16–24 year-old, low income women seeking reproductive health care. Thus, our findings may not be applicable to older reproductive-aged women or those in other settings. Finally, we could not evaluate disease-specific information as our survey did not ask about specific diseases. Together, these limitations could impact the overall generalizability of our findings.

In conclusion, our analysis indicates that race/ethnicity has an independent effect on seeking health information online. Identifying these disparities is the first step in designing online sites which will encourage better prevention practices among reproductive-aged women of all race/ethnicities residing in the US.

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References

1. Williams DR, Jackson PB. Social sources of racial disparities in health. *Health Aff.* 2005; 24:325–34.
2. Thomson, GE.; Mitchell, F.; Williams, MB., editors. Examining the health disparities research plan of the National Institutes of Health: Unfinished business. Washington, DC: National Academies Press; 2006. Health disparities: concepts, measurements, and understanding; p. 21–33.
3. Anachebe NF, Sutton MY. Racial disparities in reproductive health outcomes. *Am J Obstet Gynecol.* 2003; 188:S37–42. [PubMed: 12712135]
4. National Institutes of Health. [Accessed February 10, 2011] Women of color health data book. 2006. [Online]. Available at: <http://orwh.od.nih.gov/pubs/womenofcolor2006.pdf>
5. Sangi-Haghepeykar H, Ali N, Posner S, Poindexter AN. Disparities in contraceptive knowledge, attitude and use between Hispanic and non-Hispanic whites. *Contraception.* 2006; 74:125–32. [PubMed: 16860050]
6. Garces-Palacio IC, Altarac M, Scarinci IC. Contraceptive knowledge and use among low-income Hispanic immigrant women and non-Hispanic women. *Contraception.* 2008; 77:270–75. [PubMed: 18342650]
7. Newman LM, Berman SM. Epidemiology of STD disparities in African American communities. *Sex Transm Dis.* 2008; 35:S4–12. [PubMed: 18971796]
8. Centers for Disease Control and Prevention. STD Health Disparities-Sexually Transmitted Disease Surveillance, 2007. Atlanta, GA: US Department of Health and Human Services; 2008. Available at: <http://www.cdc.gov/std/health-disparities/>
9. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex and Reprod Health.* 2006; 38:90–6.
10. Special tabulation, commissioned by the National Campaign to Prevent teen and Unplanned Pregnancy, of data from Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex and Reprod Health.* 2006; 38:90–6.
11. Henshaw SK. Unintended pregnancy in the United States. *Fam Plann Perspect.* 1998; 30:24–29. 46. [PubMed: 9494812]
12. Richardson LD, Norris M. Access health and health care: How race and ethnicity matter. *Mt Sinai J Med.* 2010; 77:166–77. [PubMed: 20309927]
13. Brodie M, Flournoy RE, Altman DE, Blendon RJ, Benson JM, Rosenbaum MD. Health information, the Internet, and the digital divide. *Health Aff.* 2000; 19:255–65.
14. Miller EA, West DM, Wasserman M. Health information Websites: Characteristics of US users by race and ethnicity. *J Telemed Telecare.* 2007; 13:298–302. [PubMed: 17785031]
15. Nicholson WK, Grason HA, Powe NR. The relationship of race to women's use of health information resources. *Am J Obstet Gynecol.* 2003; 188:580–5. [PubMed: 12592275]
16. Lorence DP, Park H, Fox S. Racial disparities in health information access: Resilience of the digital divide. *J Med Syst.* 2006; 30:241–9. [PubMed: 16978003]
17. Baker L, Wagner TH, Singer S, Bundorf MK. Use of the internet and e-mail for health care information: results from a national survey. *JAMA.* 2003; 289:2400–6. [PubMed: 12746364]
18. Jones, S.; Fox, S. Generations online in 2009. Washington, DC: Pew Internet & American life project; 2009. Available at: <http://www.pewinternet.org/Reports/2009/Generations-Online-in-2009/Generational-Differences-in-Online-Activities.aspx>
19. Fox, S. Health information online. Washington, DC: Pew Internet & American life project; 2005. Available at: <http://www.pewinternet.org/Reports/2005/Health-Information-Online.aspx>

20. Yee L, Simon M. The role of the social network in contraceptive decision-making among young, African American and Latina women. *J Adolesc Health*. 2010; 47:374–80. [PubMed: 20864007]
21. Kuiper H, Miller S, Martinez E, Loeb L, Darney P. Urban adolescent females' views on the implant and contraceptive decision-making: A double paradox. *Fam Plann Perspect*. 1997; 29:167–72. [PubMed: 9258648]
22. Guendelman S, Denny C, Mouldon J, Chetkovich C. Perceptions of hormonal contraceptive safety and side effects among low-income Latina and non-Latina women. *Matern Child Health J*. 2000; 4:233–9. [PubMed: 11272343]
23. Grisso JA, Freeman EW, Maurin E, Garcia-Espana B, Berlin JA. Racial differences in menopause information and the experience of hot flashes. *J Gen Intern Med*. 1999; 14:98–103. [PubMed: 10051780]
24. Birru MS, Monaco VM, Charles L, Drew H, Njie V, et al. Internet usage by low-literacy adults seeking health information: An observational analysis. *J Med Internet Res*. 2004; 6:e25. [PubMed: 15471751]
25. Birru MS, Steinman RA. Online health information and low-literacy African Americans. *J Med Internet Res*. 2004; 6:e26. [PubMed: 15471752]
26. Breslau J, Aguilar-Gaxiola S, Kendler KS, Su M, Williams D, et al. Specifying race-Ethnic differences in risk for psychiatric disorder in a US national sample. *Psychol Med*. 2006; 36:57–68. [PubMed: 16202191]
27. Fogel J. Internet use for cancer information among racial/ethnic population and low literacy groups. *Cancer Control*. 2003; 10:45–51. [PubMed: 14581904]

Table 1

Characteristics of reproductive-age women by race/ethnicity

Demographic characteristics	White	Black	Hispanic	P value
	<i>n</i> =875	<i>n</i> =779	<i>n</i> =1386	
Age, yr, mean($\pm$ SD)	20.6 (2.5)	20.5 (2.5)	21.1 (2.5)	<.001
Education (%)				<.001
Did not complete HS	114 (13.1)	66 (8.5)	390 (29.1)	
HS graduate/enrolled in HS	456 (51.2)	455 (58.4)	660 (49.3)	
Some college/college degree	303 (34.7)	258 (32.1)	290 (21.6)	
Income/year (%)				<.001
< \$15,000	411 (51.1)	466 (65.9)	688 (57.6)	
\$15,000–\$29,999	229 (28.5)	154 (21.8)	349 (29.2)	
\$30,000–\$49,999	98 (12.2)	62 (8.8)	112 (9.4)	
\$50,000 and above	66 (8.2)	25 (3.5)	46 (3.9)	
Marital status (%)				<.001
Never married	536 (61.3)	651 (83.6)	603 (43.5)	
Live together/currently married	282 (32.2)	106 (13.6)	695 (50.1)	
Divorced/separated/widowed	57 (6.5)	22 (2.8)	88 (6.4)	

One-way analysis of variance (ANOVA) was used to examine differences by race/ethnicity for continuous variables

Chi-square was used to examine differences by race/ethnicity for categorical variables $\pm$ SD, standard deviation; HS, High School

Table 2

Pattern of internet use in reproductive-age women by race/ethnicity

	Total	White	Black	Hispanic
	<i>n</i> =3040 ^a	<i>n</i> =875 ^a	<i>n</i> =779 ^a	<i>n</i> =1386 ^a
Internet use, %	81.3	92.7	92.9	67.5 ^{‡§}
Having e-mail account, %	72.2	86.1	84.4	56.5 ^{‡§}
Connected with social network, %	66.6	80.9	77.5	51.4 ^{‡§}
	<i>n</i> =2471 ^b	<i>n</i> =811 ^b	<i>n</i> =724 ^b	<i>n</i> =936 ^b
Location of internet access, % *				
Home	71.8	74.9	72.5	68.6 [‡]
Work place	14.5	17.9	13.0 ^ϕ	12.8 [‡]
School	29.6	29.1	35.2 ^ϕ	25.7 [§]
Someone else's home	44.7	48.8	47.2	39.2 ^{‡§}
Public library	21.0	19.1	24.5 ^ϕ	20.0 [§]
Community center	3.3	2.8	5.8 ^ϕ	1.6 [§]
Duration of internet use, hour/day, %				
1	54.9	58.5	42.1 ^ϕ	62.2 ^{‡§}
2–4	36.5	35.7	43.4 ^ϕ	31.6 [§]
5–7	6.3	4.2	10.4 ^ϕ	4.7 [§]
>7	2.3	1.6	4.1 ^ϕ	1.5 [§]
Frequency of internet use, %				
Everyday	21.1	23.6	24.9	16.0 ^{‡§}
Few times a week	40.5	41.5	41.0	39.4
Few times a month	38.4	34.9	34.1	44.6 ^{‡§}
Find health information for herself, %	74.7	79.2	70.3 ^ϕ	74.3 [‡]
Find health information for someone else, %	58.0	60.9	52.1 ^ϕ	60.0 [§]

* Percentages do not add up to 100 because of internet use at multiple places

Chi-square was used to examine the differences by race/ethnicity

^ϕ = when significant difference was found between Blacks and Whites (*P* value <0.05)

[§] = when significant difference was found between Blacks and Hispanics (*P* value <0.05)

[‡] = when significant difference was found between Hispanics and Whites (*P* value <0.05)

^a = all participants (total, white, blacks, and Hispanics); these denominators were used for “internet use”, “having e-mail account” and, “connected with social network”

^b = all internet users (total, white, blacks, and Hispanics); these denominators were used for “location of internet access”, “duration of internet use”, “frequency of internet use”, “find health information for herself” and, “find health information for someone else”

Table 3

Barriers to use the internet among non-internet users by race/ethnicity

Barriers	Total	White	Black	Hispanic
	<i>n</i> =509	<i>n</i> = 54	<i>n</i> =48	<i>n</i> =407
I have no interest in using it, %	37.3	42.6	33.3	37.1
It costs too much and I can't afford it, %	39.0	53.7	27.1 ^φ	38.6 [‡]
It is too complicated to use, %	17.5	11.1	16.7	18.4
I do not trust information on the internet, %	15.7	11.1	22.9	15.5
I do not know how to use a computer, %	21.8	9.3	14.6	24.3 [‡]
It is dangerous, %	14.0	11.1	18.8	13.8
I don't have a computer at home, %	71.0	64.8	64.6	72.6

Chi-square was used to examine the differences by race/ethnicity

^φ = when significant difference was found between Blacks and Whites (*P*value <0.05)[‡] = when significant difference was found between Hispanics and Whites (*P*value <0.05)

Table 4

Online health information seeking by race/ethnicity among internet users

Types of information	White n=811	Black n=723	Hispanic n=932
Reproductive health (%)			
Menstruation-related			
Menstrual Period	270 (33.3)	227 (31.4)	270 (31.3)
Menstrual cramps	225 (27.7)	189 (26.1)	223 (24.1)
Menstrual heavy bleeding	171 (21.1)	148 (20.6)	178 (19.3)
Contraception-related			
Overall birth control methods (pills, shots, IUDs, etc.)	439 (54.1)	327 (45.2) ϕ	421 (45.2) $\ddagger$
Emergency contraception	98 (12.1)	104 (14.5)	128 (13.8)
Pregnancy-related			
Pregnancy test	145 (17.9)	184 (25.5) ϕ	209 (22.6) $\ddagger$
Being pregnant	399 (49.2)	369 (51.2)	483 (52.1)
Sexually transmitted infection (STI)	287 (35.4)	314 (43.6) ϕ	368 (39.8)
General health (%)			
Risks of/ways to quit smoking	110 (13.6)	50 (7.0) ϕ	92 (10.0) $\ddagger$ δ
Ways to lose weight	367 (45.3)	286 (39.5) ϕ	452 (48.8) δ
Alcohol/drug use	127 (15.7)	63 (8.8) ϕ	134 (14.4) δ
Depression/anxiety	215 (26.5)	128 (17.8) ϕ	189 (20.4) $\ddagger$
Skin rash/acne	204 (25.3)	135 (18.8) ϕ	230 (24.8) δ
Physical/sexual assault (%)	54 (6.7)	66 (9.2)	70 (7.5)

Chi-square was used to examine the differences by race/ethnicity

 ϕ = when significant difference was found between Blacks and Whites (P value <0.05) δ = when significant difference was found between Blacks and Hispanics (P value <0.05) $\ddagger$ = when significant difference was found between Hispanics and Whites (P value <0.05)

Table 5

Odds ratios [95% confidence interval (CI)] of seeking online health-related information by race/ethnicity among internet users

Types of information	Black Odds ratio (95% CI)	Hispanic Odds ratio (95%CI)
Reproductive health		
Menstruation-related		
Menstrual Period	0.94 (0.75–1.18)	0.99 (0.80–1.24)
Menstrual cramps	0.89 (0.70–1.14)	0.90 (0.72–1.14)
Menstrual heavy bleeding	0.91 (0.71–1.20)	0.95 (0.74–1.22)
Contraception-related		
Overall birth control methods (pills, shots, IUDs, etc)	0.73 (0.58–0.91) **	0.75 (0.61–0.92) **
Emergency contraception	1.23 (0.90–1.69)	1.35 (1.00–1.82)
Pregnancy-related		
Pregnancy test	1.67 (1.28–2.18) **	1.40 (1.09–1.81) **
Being pregnant	1.20 (0.97–1.49)	1.11 (0.91–1.37)
Sexually transmitted infections (STIs)	1.39 (1.11–1.73) **	1.25 (1.01–1.54) *
General health		
Risks of/ways to quit smoking [£]	0.66 (0.45–0.98) *	0.92 (0.66–1.28)
Ways to lose weigh ^Ω	0.68 (0.53–0.87) **	1.13 (0.90–1.42)
Alcohol/drug use	0.54 (0.39–0.76) **	1.00 (0.75–1.32)
Depression/anxiety	0.61 (0.47–0.80) **	0.73 (0.58–0.93) **
Skin rash/acne	0.69 (0.53–0.90) **	1.02 (0.81–1.28)
Physical/sexual assault	1.45 (0.97–2.16)	1.25 (0.85–1.84)

Whites considered as reference

Adjusted by age (16–19 Vs 20–24), education, annual income, and marital status

[£] Additionally adjusted by smoking status

^Ω Additionally adjusted by BMI

* *P* value <0.05

** *P* value <0.01