



Published in final edited form as:

Am J Obstet Gynecol. 2014 June ; 210(6): 528.e1–528.e5. doi:10.1016/j.ajog.2014.01.036.

Complications related to pubic hair removal

Andrea L. DEMARIA, PhD, MS^{1,2,*}, Ms. Marissa FLORES, BS², Jacqueline M. HIRTH, PhD, MPH², and Abbey B. BERENSON, MD, PhD²

¹Department of Health and Human Performance, College of Charleston, Charleston, SC, USA

²Center for Interdisciplinary Research in Women's Health and Department of Obstetrics & Gynecology, University of Texas Medical Branch, Galveston, TX, USA

Abstract

Objectives—We investigated the prevalence and correlates of complications related to pubic hair removal among a diverse clinical sample of women attending a public clinic.

Study Design—Women (aged 16 to 40 years) who received care from April to June 2012 at two publicly funded clinics completed an anonymous, self-administered questionnaire (n=369). After excluding women with missing data, analyses were conducted on 333 women. Additional measures were retrieved through a medical chart review. Chi-square and multivariable logistic regression were used to analyze participant characteristics, pubic hair removal behaviors, and complications related to pubic hair removal.

Results—Most women (87%) admitted to current removal of at least some pubic hair, while the remainder responded that they had removed pubic hair in the past. Under or normal weight women were more likely to report total pubic hair removal than overweight or obese women. The majority (60%) had experienced at least one health complication due to removal, of which the most common were epidermal abrasion and ingrown hairs. Black and Hispanic women were less likely than white women to report complications. Overweight or obese women were almost twice as likely to report a complication and almost 3 times as likely if they were also total removers. Only 4% had seen a healthcare provider for a complication related to hair removal and only 4% discussed safe removal practices with their doctor.

Conclusions—Minor complications commonly occur as a result of pubic hair removal. Gynecological visits could provide a safe environment for women to discuss pubic hair removal practices.

Correspondence: Abbey B. Berenson, MD, PhD, Department of Obstetrics and Gynecology, University of Texas Medical Branch, 301 University Blvd, Galveston, Texas 77555-0587, abberens@utmb.edu, Telephone: 409-772-2417, Fax: 409-747-5129.

*Dr. DeMaria was a postdoctoral fellow at UTMB at the time of data collection. She has since joined the faculty at the College of Charleston

Disclosure Statement: The authors report no conflict of interest.

Reprints: Reprints will not be available.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Keywords

clinical complications; genital injury; genital shaving; pubic hair

Introduction

More than 50% of young women (18–24 years old) in the U.S. have admitted to removing pubic hair recently.¹ Most women remove pubic hair for sexuality or aesthetic reasons.^{2–3} This practice may result in adverse health consequences, including genital burns from waxing, severe skin irritation leading to post inflammatory hyperpigmentation, vulvar and vaginal irritation and infection, and the spread or transmission of sexually transmitted infections (STI).^{4–7} Less serious complications that may be experienced as a result of pubic hair removal include: epidermal abrasion, ingrown hairs, folliculitis, vulvitis, or contact dermatitis.

Pubic hair removal is now a contemporary trend, with total hair removal increasing in popularity, especially among adolescents and young adults.^{1,3,4} This practice is associated with being partnered (rather than single or married), having looked closely at one's own genitals in the previous month, cunnilingus in the past month, and more positive genital self-image and sexual function.^{1,3} Little information is available on the frequency of clinical complications associated with this behavior, especially among adolescents and women from diverse ethnic and racial backgrounds. The purpose of this study was to report on pubic hair removal practices, complications, and characteristics associated with complications among a clinical sample of low income, racially diverse women.

Materials and Methods

Participants were recruited from two publicly funded reproductive health clinics at the University of Texas Medical Branch (UTMB) between April 2012 and June 2012. All women between 16 and 40 years old who presented for an appointment on a day that a research assistant was assigned to that clinic were eligible to participate. When approached, women were informed their participation was voluntary, and that they would be answering questions related to pubic hair removal and sexual health. Those who agreed to participate were then handed an anonymous, self-administered, written survey in either Spanish or English which took approximately 30 minutes to complete. Upon returning the form, they chose a small gift valued at \$3 or less for their time and effort.

To ensure women completed the survey only once during the data collection period, a cumulative database containing the names of those who participated, and those who declined participation was maintained. Overall, 79 women (17.6%) who were approached to take the survey declined to participate. Women who refused did not significantly differ from those who participated in age (25.7 years vs. 24.7 years; $p=0.16$) or race/ethnicity. The UTMB Institutional Review Board approved all procedures and protocols for this study, including a waiver of written consent. Participants consented verbally to complete the survey.

Participants were excluded if they had never removed their pubic hair (n=8), did not indicate how much pubic hair they removed (n=6), did not select a race/ethnicity (n=7), or had missing body mass index (BMI) data (n=15). Of the original 369 women who were surveyed, 333 were included in this study. The survey included questions about current or past hair removal, amount and method of removal, and health complications resulting from removal (Table 1). Women who responded that they typically remove all of their pubic hair were assessed as total removers while all others were assessed as partial removers. Women who removed their pubic hair in the past, but were not currently removing it were asked why they discontinued. Possible responses included: "I am not sexually active; I developed an infection; I didn't like the side effects (stubble, bumps, rashes, ingrown hairs); It was too expensive; It was too much of a hassle; It was too painful; My partner wanted me to stop; I like the look of pubic hair; Other." Participants were asked if they had ever experienced complications from pubic hair removal, if they obtained health care for these complications, and whether they had ever been counseled by a provider on hair removal practices. BMI was calculated using self-reported height and clinical measurements of weight obtained at their clinic visit. Participants were classified into one of two categories: under or normal weight ($BMI < 25 \text{ kg/m}^2$) versus overweight or obese ($BMI \geq 25 \text{ kg/m}^2$).

Descriptive statistics were analyzed using chi-square analysis to determine significant differences by amount of pubic hair removal (total compared to partial). Multivariable logistic regression was used to calculate the odds of reporting any health complication related to pubic hair removal. To examine whether an interaction between BMI and amount of pubic hair removal was associated with a report of complications, a dummy variable was developed with four possible categories: partial removers who were under/normal weight, total removers who were under/normal weight, partial removers who were overweight/obese, and total removers who were overweight/obese. Logistic regression analysis compared the odds of complication of the first three categories with overweight/obese women who were total removers. All analyses were performed using SAS 9.3 software (Cary, NC).

Results

The mean age of participants was 24.7 years (SD=5.5; range=16 to 40). A significantly higher proportion of women reported removing all, as compared to only some, of their pubic hair ($p < 0.001$; Table 1). Furthermore, most were current removers (86.8%). Current removers were more likely to remove all their pubic hair ($p < .001$). Almost 90% reported using a razor blade, at least sometimes, to remove pubic hair.

Nearly one-third of participants were under/normal weight and the majority classified as overweight/obese. One-way chi-square analysis showed that under/normal weight women were more likely to be total removers compared to overweight/obese women ($p < 0.01$). More than half of respondents indicated experiencing at least one health complication due to pubic hair removal. Of those who experienced any health complication, 90.7% reported shaving with a razor. Only 3.9% had ever seen a healthcare provider for a complication related to pubic hair removal, and only 3.7% reported discussing safe pubic hair removal practices with a healthcare provider.

Among the 44 women who reported prior, but not current hair removal, 42 gave reasons for stopping this practice. The most common reason cited by 40.9% was disliking the side effects (stubble, bumps, rashes, ingrown hairs). Other reasons were: too much of a hassle (25%), lack of sexual activity (11.4%), liking the look of pubic hair (7.1%), and their partner wanted them to stop (2.4%). Fourteen women also volunteered that they stopped upon becoming pregnant.

Hispanic and black women were less likely to experience a complication from pubic hair removal than white women (Table 2). Women who were overweight/obese were almost twice as likely to report experiencing complications than those under/normal weight. The most common complication reported by overweight/obese participants was epidermal abrasion (39.1%) followed by ingrown hairs (34.3%). These frequencies were similar to those experienced by under/normal weight women.

Women who were overweight/obese total removers were more than 2.75 times more likely to report complications compared to under/normal weight total removers after adjusting for race/ethnicity and age (analyses not shown). Under/normal weight and overweight/obese partial removers had a similar likelihood of reporting any complication compared to under/normal weight total removers.

Comments

While prior reports have focused on the frequency of pubic hair removal among primarily white, college aged women,^{1,6} we focused on women from underrepresented minorities and found this practice has been adopted by women from diverse backgrounds. In fact, over half of women we surveyed reported removing all pubic hair. This practice was especially common among women who were under or normal weight. Hairlessness has been described as a culturally constructed model of femininity particularly among white women. In modern Western culture, body hair has been viewed with disgust as unclean.⁸ However, this study indicates that pubic hair removal is not practiced solely by white women as has been commonly believed, but rather, is a widespread practice among diverse racial and ethnic groups. Thus, these practices are a source of health complications among women from these groups as well as among white women.

Smolak and Murnen found that the most common reported reason for pubic hair removal among women is that it makes them feel sexy and clean.⁹ The media has reinforced this cultural model in recent years through its depictions of highly desirable women. A review of centerfold models that appeared in Playboy magazine between 1953 and 2007 showed that among those in which the mons pubis was visible, pubic hair became less visible as years increased. Between 2007 and 2008, no pubic hair was visible in 61.2% of the pictures.¹⁰ In fact, over half of women we surveyed reported removing all pubic hair. Thus, pubic hair removal is now considered by many to be necessary to meet modern society's definition of attractiveness, femininity, and cleanliness among females.^{2,6,8-10}

Similar to past studies, we found that shaving with a razor was the most frequently used method of pubic hair removal.^{1-3,6} The popularity of this method is probably related to the fact that shaving is a low cost, easy to access method that can be done in the privacy of

home. Although we did not determine the method being used when injuries occurred, we found a large majority of complications related to pubic hair removal occurred among women who had shaved with a razor. This could have been due to the frequency of using razors or because shaving all areas of the pubic region is more difficult and exposes more sensitive vulvar regions to trauma.

Overall, minor complications resulting from pubic hair removal were common. This is consistent with a review of the National Electronic Injury Surveillance System (NEISS), which found that the number of emergency room visits for genitourinary injuries related to grooming increased fivefold in the USA between 2002 and 2010. One-third of these injuries were recorded in 2009–10, suggesting a substantial increase in recent years. Similar to our study, most of those injuries were minor, with 83% attributed to shaving with razors. However, 25% of female injuries in the NEISS report were diagnosed with a laceration, wax burn, or foreign body injury, demonstrating that pubic hair removal can lead to serious injuries.⁴

Hispanic and black women in our sample were less likely to report complications than whites. However, this finding is limited by the fact that we did not ask how often women removed their pubic hair. If Hispanic and black women removed their pubic hair less frequently, this could have reduced their likelihood of sustaining an injury. In addition, it is difficult to speculate why total removers who were overweight/obese had a much greater risk of sustaining an injury than those who were normal/underweight. One possibility is that overweight/obese women may have a more difficult time adequately viewing the entire pubic region when removing pubic hair. These women may avoid complications when only partially removing their pubic hair because the insides of the thighs and outside of the vulvar region are easier to view and require less flexibility to remove hair in these areas. Future studies should examine why overweight/obese women who remove all of their pubic hair have significantly higher odds of a complication so that preventive measures may be taken, and so that additional information about safer hair removal practices in these women are available to health care providers.

This study has several limitations. First, participants were limited to a clinical sample of women in the Texas Gulf Coast region and may not be generalizable to other populations. Additionally, it is difficult to determine the accuracy of the responses since this was a self-administered questionnaire. We also were not able to determine what method of hair removal respondents used when an injury occurred. Future studies should determine what methods of hair removal lead to complications.

Overall, this study supports the need for women to receive health advice on pubic hair grooming from their physician, with an emphasis on teaching safe removal practices, particularly among overweight/obese women. Gynecological visits could provide safe contexts for women to talk with their providers about this issue.

Acknowledgments

Sources of financial support: Dr. DeMaria was a National Research Service Award postdoctoral fellow supported by an institutional training grant (T32HD055163, principal investigator: A.B.B.) from the Eunice Kennedy Shriver

National Institute of Child Health and Development (NICHD) during methods design and data collection. Dr. Hirth is supported by a research career development award (K12HD052023: Building Interdisciplinary Research Careers in Women's Health Program; principal investigator: A.B.B.) from the Office of Research on Women's Health (ORWH), the Office of the Director (OD), the National Institute of Allergy and Infectious Diseases (NIAID), the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) at the National Institutes of Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

We are grateful to Ophra Leyser-Whalen, PhD, Assistant Professor, Sociology, University of Texas at El Paso, El Paso, Texas, for her support and development of the measurement tool and for her feedback and assistance with the study protocol. Dr. Leyser Whalen was a National Research Service Award postdoctoral fellow at the University of Texas Medical Branch at Galveston, Galveston, Texas, supported by an institutional training grant (T32HD055163, principal investigator: A.B.B.) from the Eunice Kennedy Shriver National Institute of Child Health and Development (NICHD) during the development of this study.

References

1. Herbenick D, Schick V, Reece M, Sanders S, Fortenberry JD. Pubic Hair Removal among women in the United States: prevalence, methods, and characteristics. *J Sex Med.* 2010; 7:3322–30. [PubMed: 20646183]
2. DeMaria AL, Berenson AB. Prevalence and correlates of pubic hair grooming among low-income Hispanic, Black, and White women. *Body Image.* 2013; 10:226–31. [PubMed: 23394967]
3. Herbenick D, Hensel D, Smith NK, et al. Pubic hair removal and sexual behavior: findings from a prospective daily diary study of sexually active women in the United States. *J Sex Med.* 2013; 10:678–85. [PubMed: 23237246]
4. Glass AS, Bagga HS, Tasian ET, et al. Pubic hair grooming injuries presenting to U.S. emergency departments. *Urology.* 2012; 80:1187–91. [PubMed: 23040729]
5. Dendle C, Mulvey S, Pyrlis F, et al. Severe complications of a “Brazilian” bikini wax. *Clin Infect Dis.* 2007; 45:e29–31. [PubMed: 17599301]
6. Tiggemann M, Hodgson S. The hairlessness norm extended: reasons for and predictors of women's body hair removal at different body sites. *Sex Roles.* 2008; 59:889–97.
7. Castronovo C, Lebas E, Nikkels-Tassoudji N, Nikkels AF. Viral infections of the pubis. *Int J Std Aids.* 2012; 23:48–50. [PubMed: 22362688]
8. Toerien M, Wilkinson S. Gender and body hair: constructing the feminine woman. *Womens Stud Int Forum.* 2003; 26:333–344.
9. Smolak L, Murnen SK. Gender, self-objectification and pubic hair removal. *Sex Roles.* 2011; 65(7–8):506–17.
10. Schick VR, Rima BN, Calabrese SK. *Evaluation*: the portrayal of women's external genitalia and physique across time and the current Barbie doll ideals. *J Sex Res.* 2011; 48(1):74–81. [PubMed: 19916105]

Table 1

Characteristics of clinical sample of women who have removed pubic hair currently or in the past (N=333)

	Entire sample n (%)	Total removers n(%)	Partial removers n(%)	p-value
	N=333	207 (62.2)	126 (37.8)	
Demographics				
Race/ethnicity				
Hispanic	151 (45.4)	89 (58.9)	62 (41.1)	0.31
Black	84 (25.2)	51 (60.7)	33 (39.3)	
White	98 (29.4)	67 (68.4)	31 (31.6)	
Age				
16–20 years	85 (25.5)	60 (70.6)	25 (29.4)	0.18
21–30 years	196 (58.9)	116 (59.2)	80 (40.8)	
31–40 years	52 (15.6)	31 (59.6)	21 (40.4)	
BMI ^a				
Under or normal	96 (28.8)	72 (75.0)	24 (25.0)	0.002
Overweight or obese	237 (71.2)	135 (57.0)	102 (43.0)	
Pubic hair removal practices				
Do you currently remove your pubic hair?				
Yes	289 (86.8)	192 (92.8)	97 (77.0)	<0.001
No, but have in the past	44 (13.2)	15 (7.2)	29 (23.0)	
What methods have you used to remove your pubic hair?				
Razor blade	297 (89.5)	191 (92.7)	106 (84.1)	0.01
Depilatory cream/foam	53 (16.0)	31 (15.0)	22 (17.5)	0.56
Electric razor	50 (15.1)	22 (10.7)	28 (22.2)	0.004
Trim	39 (11.8)	14 (6.8)	25 (19.8)	<0.001
Wax	24 (7.2)	15 (7.3)	9 (7.1)	0.96
Laser	2 (0.6)	1 (0.3)	1 (0.3)	-
Pluck	3 (0.9)	3 (1.46)	0	-
Sugar	0	-	-	-
Thread	0	-	-	-
Have you ever experienced any of the following health complications as a result of removing your pubic hair?				
Any complication	194 (59.5)	126 (62.1)	68 (55.3)	0.23
Epidermal abrasion	120 (36.7)	77 (37.9)	43 (34.7)	0.55
Ingrown hairs	107 (32.7)	68 (33.5)	39 (31.4)	0.70
Severe itching	69 (21.1)	44 (21.7)	25 (20.2)	0.74
Cuts	60 (18.4)	44 (21.7)	16 (12.9)	0.05
Rash	43 (13.2)	28 (13.8)	15 (12.1)	0.66
Bruise	0	-	-	-
Allergy	7 (2.1)	6 (3.0)	1 (0.8)	-
Burns	4 (1.22)	4 (2.0)	0	-
Infection	16 (4.9)	8 (3.9)	8 (6.4)	0.31

^aBMI is body mass index. BMI values for under to normal weight are $<25 \text{ kg/m}^2$ and BMI values for overweight or obese are $\geq 25 \text{ kg/m}^2$.

Table 2

Odds of reporting any clinical complication as a result of pubic hair removal

	OR (95% CI)
Hispanic	0.47 (0.26–0.82)
Black	0.31 (0.16–0.58)
White	Reference
16–20 years	0.64 (0.29–1.38)
21–30 years	0.67 (0.34–1.33)
31–40 years	Reference
Partial removers	0.71 (0.44–1.14)
Total removers	Reference
BMI overweight or obese	1.96 (1.16–3.30)
BMI under or normal weight	Reference

Hosmer Lemeshow goodness of fit estimate (p>0.05)