Estimated Lifetime Prevalence of Trichotillomania in College Students

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Background: Trichotillomania, a disorder of hair pulling, has been considered a rare condition. Estimations of the prevalence of this disorder have been based largely on clinical experience, and there have been no estimates of its prevalence based on data collected from a large, nonclinical population.

Method: 2579 freshman college students at two state universities and one liberal arts college were asked to provide written responses to questions designed to practically apply DSM-III-R criteria for trichotillomania and estimate the prevalence of trichotillomania in this population.

Results: 2534 students (97.9% of the study population) responded. We found a 0.6% lifetime prevalence of DSM-III-R trichotillomania for both male and female respondents. Hair pulling resulting in visible hair loss, but failing to meet full DSM-III-R criteria, was identified in 1.5% of males and 3.4% of females.

Conclusion: Trichotillomania may not be as rare as previously suspected and may affect males as often as females.

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Trichotillomania is a disorder of hair pulling included in DSM-III-R[1] under impulse control disorders not elsewhere classified. In adults, hair pulling is a chronic condition that is associated with high rates of psychiatric comorbidity, and the disorder can lead to marked emotional distress and diminished self-esteem.[2,3] Criteria for diagnosis include (A) recurrent failure to resist impulses to pull out one's own hair, resulting in noticeable hair loss; (B) increasing sense of tension immediately before pulling out the hair; (C) gratification or a sense of relief when pulling out the hair; (D) no association with a preexisting inflammation of the skin, and not a response to a delusion or a hallucination.[1] The diagnostic boundaries of these criteria have recently come into question as not all chronic hair pullers acknowledge an urge or mounting tension preceding or tension reduction or gratification following hair pulling as required by DSM-III-R.[2]

Trichotillomania has generally been considered to be a rare condition.[4-6] Clinical experience supports the impression that trichotillomania is uncommon. The average dermatologist is reported to see only two to three cases per year[7]; Muller,[8] however, reported seeing 14 to 16 cases per year at the Mayo Clinic. Only 3 of 500 children in a child guidance clinic were found to have the disorder[9] as were only 7 of 1368 patients seen in a mental health clinic.[10] Fabri and Dy[11] saw only two cases in a private university outpatient clinic in which an estimated 1200 patients are treated annually for psychiatric conditions. In another report,[12] only 5 of approximately10,000 children who had been seen for psychiatric disorders were noted to have pulled out their hair. Although Azrin and Nunn[13] estimated that 4% of the population currently pulls out hair and that 10% may have engaged in this behavior at some time, these figures are approximations based on the number of inquiries they received about treatment for hair pulling and nail biting compared to survey estimates of the prevalence of nail biting. Because, to our knowledge, no attempt to estimate the prevalence of this disorder in a large nonclinical population had been conducted, we assessed the lifetime prevalence of hair pulling in freshman college students enrolled at two state universities and one liberal arts college by means of a questionnaire designed to inquire about DSM-III-R criteria for trichotillomania.

METHOD

Questions designed to practically apply all DSM-III-R criteria for trichotillomania (except for the exclusionary criterion of relationship to hallucinations or delusions) were incorporated into a 94-item questionnaire that has been described elsewhere.[14,15] This instrument has been used to elicit basic data concerning demographics, eating behaviors, eating attitudes, and treatment history of psychiatric problems in college freshmen.[14,15] Four hair pulling questions were posed: (1) Have you ever pulled out your eyelash, eyebrow, scalp, pubic, or other body hair to the point that it resulted in noticeable hair loss? (2) Have you ever had an irresistible urge to pull out your hair which you acted on? (3) Has pulling out your hair resulted in a sense of relief or gratification? and (4) Have you ever been told that you have a skin disease in an area from which you have pulled your hair?

Table 1. Hair-Pulling Profiles of 1389 Female and 1135 Male College Students

	A Hair Pulling With Visible Hair Loss (Regardless of Urge to Pull or Tension Reduction)		B DSM-III-R Trichotillomania		C Hair Pulling With Either Urge to Pull or Tension Reduction	
Variable	N	%	N	%	N	%
Female	47	3.4	8	0.6	13	0.9
Male	17	1.5	7	0.6	3	0.3
Total	64	2.5	15	0.6	16	0.6

The subject population consisted of freshmen college students enrolled at two state universities and one liberal arts college within a large midwestern community. The questionnaire was administered on a single day in 1989 by faculty members teaching freshman English and was accompanied by a cover letter, approved by the appropriate human subject committees, which indicated that response was voluntary and anonymous. Chi square tests were used for statistical analyses when appropriate.

RESULTS

Of 2579 potential subjects, 2524 completed the questionnaire, a 97.9% response rate. Two thousand one hundred sixty-four (85.7%) respondents were enrolled in the state universities and 360 (14.3%) in the liberal arts college. Forty-five percent (N=1135) of the population was male and 55% (N=1389), female. Most subjects (97.1%) were white and 0.3% identified themselves as black; 0.5%, Native American; and 2.1%, "other." The median age was 18 years. Most subjects identified their religion as Protestant (38.9%); the rest identified themselves as Catholic (32.2%), Jewish (0.1%), or other (28.8%).

Table 1 lists three subject-response profiles of interest in the estimation of the prevalence of hair pulling in this population. Column A indicates the number of subjects who acknowledged a history of hair pulling accompanied by resultant visible hair loss, which was considered the minimal criterion for clinically significant hair pulling. Column B indicates the number of subjects that answered affirmatively to Questions 1, 2, and 3 and who would have met criteria for DSM-III-R trichotillomania. As an affirmative answer to Question 4 would exclude a diagnosis of trichotillomania, subjects answering yes to Question 4 are not presented in Table 1 (3 subjects acknowledged hair pulling but answered yes to Question 4). Column C lists the number of subjects acknowledging a history of visible hair loss from hair pulling associated with either an urge to pull or tension reduction/gratification qualities (affirmative response to Questions 1 and 2 or 1 and 3), but not both; they therefore failed to meet full criteria for DSM-III-R trichotillomania.

No statistical differences between hair pullers and non-hair pullers were found in regard to history of eating disorders. Although only limited data were gathered concerning psychopathology other than eating disorder and hair pulling behavior, more hair pullers than non-hair pullers acknowledged a history of treatment for depression (16.4% vs. 5.7%; $\chi^2=11.65$, df=1, $p<.001$), emotional problems (14.9% vs. 5.9%; $\chi^2=7.84$, df=1, $p=.005$), and drug problems (excluding alcohol) (6.0% vs. 1.5%; $\chi^2=5.84$, df=1, $p=.016$).

DISCUSSION

This study is the first systematic attempt to estimate the prevalence of trichotillomania in a large nonclinical population. Although the study incorporated anonymous responses to a questionnaire, lacked the benefit of follow-up interview, and used a subject sample that is not representative of the general population, our results suggest some interesting epidemiologic characteristics of trichotillomania.

On the basis of the criteria of (1) visible hair loss resulting from hair pulling, (2) irresistible urges preceding hair pulling, (3) relief or gratification following hair pulling, and (4) absence of a related skin disease, 0.6% of both male and female college freshmen would have met criteria for trichotillomania at some point. This rate would be more than expected if one extrapolated the low rates of clinical presentations of this disorder (<1% of clinical populations[9-12]) to the general population (assuming that distressing conditions are more common in clinical settings than in the community), but less than estimated by Azrin and Nunn.[13] This estimated lifetime prevalence may be much higher than the point prevalence, as some subjects may have experienced self-limited hair pulling during childhood or adolescence. Once established in adulthood, the behavior appears to be chronic.[2]

An interesting finding is the unexpected equal number of male and female subjects who met the more restrictive criteria for trichotillomania. The trichotillomania literature suggests a greater prevalence of the disorder in females. Muller[4,8] noted that 73% of 319 patients with trichotillomania seen over a 20-year period were female. In another study,[2] 93% of 60 adult hair pullers were female. This apparent discrepancy might be accounted for by the unwillingness of males to seek help or by the fact that males can more easily account for hair loss (alopecia resulting from hair pulling frequently mimics patterns of male balding) or treat certain sites (e.g., shave facial hair).[2] An interesting observation of Muller's is that preschool hair pullers may have a more even sex distribution or male predominance.[4,8] Perhaps males develop hair pulling at an earlier age and remit before treatment is necessary.[16]

A previous study[2] of chronic adult hair pullers established a mean±SD age at onset of 13±8 years and a range of <1 to 39 years. Since the cohort remains within the risk period, additional cases of trichotillomania may emerge.

College populations would be expected to be quite diverse depending on geographic location, socioeconomic profiles, and the specific emphasis of individual colleges. Subjects were predominantly white and middle class, and all were midwestern college students; therefore, some

caution should be exercised in extrapolating the estimated lifetime prevalence to the general population.

The above observations are based on questions approximating DSM-III-R criteria for trichotillomania. Recently, Christenson et al.[2] found that 17% of 60 chronic hair pullers seeking treatment failed to describe either tension or urges preceding hair pulling or relief or gratification following hair pulling, although all subjects described one of these two characteristics. This suggests that DSM-III-R criteria for trichotillomania might be overly restrictive. Allowing for the absence of either criterion B or C, the estimated lifetime prevalence of clinically relevant hair pullers in the study population would rise to 0.9% in males and 1.5% in females (includes subjects in Columns B and C of Table 1).

A higher estimate results if the criteria are broadened to include all subjects who identified a history of hair pulling with resultant hair loss, regardless of the presence of associated urges, relief, or gratification (Column A of Table 1). However, the resulting figure of 3.4% of college females most likely includes a number of false positives. In a prior study[17] which included more detailed hair pulling questions and a questionaire administered to bulimic patients and normal controls, 45% of bulimics and 63% of controls who admitted that they pulled out hair (but denied urges to pull and tension release or gratification following hair pulling) indicated that they did this only as cosmetic hair plucking. Although this might explain the high rate of female responders, such an explanation seems unlikely to apply to males, of whom 1.5% acknowledged a history of hair pulling and resultant hair loss. These data, although limited by methodological and population sampling considerations, suggest that the lifetime prevalence of clinically relevant hair pulling in college freshmen ranges between 0.6% and 1.5% of males and 0.6% and 3.4% of females, indicating that trichotillomania may be more prevalent than previously suspected.

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