Journal of Athletic Training 2005;40(3):211–217

www.journalofathletictraining.org

Self-Reported Comfort in Athletic Training of Gender-Specific and Non-Gender-Specific Injuries and Issues

Jan L. Drummond*; Benito J. Velasquez†; Rhonda S. Cross‡; Mary L. Jones§

*The University of Tulsa, Tulsa, OK; †The University of Southern Mississippi, Hattiesburg, MS; ‡Southeastern Louisiana University, Hammond, LA; §The University of West Alabama, Livingston, AL

Jan L. Drummond, EdD, contributed to conception and design, acquisition and analysis and interpretation of the data, and drafting and final approval of the article. Benito J. Velasquez, DA, LAT, ATC, contributed to conception and design and critical revision and final approval of the article. Rhonda S. Cross, PhD, LAT, ATC, and Mary L. Jones, PhD, LAT, ATC, contributed to conception and design, acquisition of the data, and critical revision and final approval of the article.

Address correspondence to Jan L. Drummond, EdD, Athletic Training/Exercise and Sports Science, School of Nursing, The University of Tulsa, 600 S. College Avenue, Tulsa, OK 74104–3189. Address e-mail to jan-drummond@utulsa.edu.

Context: To assist athletes in maintaining optimal health, athletic trainers must work with athletes of both sexes.

Objective: To examine athletic trainers' comfort levels in providing care for gender-specific and non-gender-specific injuries and issues.

Design: We mailed 235 Gender Comfort in Athletic Training Questionnaires to program directors, who were asked to distribute and collect them.

Setting: We randomly selected 21 athletic training education program directors and invited them by e-mail to participate in the study. Fourteen program directors representing the 10 National Athletic Trainers' Association districts agreed to participate.

Patients or Other Participants: A total of 192 participants returned completed questionnaires, for a response rate of 82% (103 women, 89 men; 101 senior athletic training students, 91 certified athletic trainers).

Main Outcome Measure(s): The questionnaire consisted of 17 injuries and issues common to both female and male athlete scenarios. Three gender-specific items were added to each scenario. Responses were scored on a 5-point scale anchored by 1 (*very uncomfortable*) and 5 (*very comfortable*). Participants were asked to indicate the reason for any degree of discomfort. Internal consistency, determined by the Cronbach alpha, was .92 for the female athlete scenario and .93 for the male athlete scenario.

Results: We found significant differences between women and men certified athletic trainers for the female and male athlete scenarios. Overall, women were more comfortable caring for female injuries and issues, whereas men were more comfortable caring for male injuries and issues. Certified athletic trainers reported more comfort overall than athletic training students. The most common underlying reason reported for discomfort in caring for female and male injuries and issues was experience level.

Conclusions: Athletic training education programs should provide early and more deliberate experiences with injuries and issues of a more intimate nature, including those that are gender specific and non-gender specific. These experiences may increase athletic trainers' level of comfort in providing care to athletes of the opposite sex.

Key Words: comfort level, same-sex health care, opposite-sex health care, health care

As an allied health care provider, the athletic trainer's primary responsibility is to assist athletes in maintaining optimal health.[1] In doing so, athletic trainers must operate in situations that require them to work with athletes of both sexes. Approximately 47% of women surveyed in 1996 by the Women in Athletic Training Committee indicated they were the head or assistant athletic trainer for both women's and men's teams.[2] Approximately 66% of men surveyed in 1996 indicated they were the head or assistant athletic trainer for both women's and men's teams.[3]

The Joint Review Committee on Educational Programs in Athletic Training stated that clinical education should include general medical experiences of both sexes[4]; however, the number and length of these experiences and how early in the athletic training education program they should be presented are unspecified. Drummond et al[5] reported that both women and men felt that their education in athletic training gave them adequate preparation for providing athletic training services to athletes of the same and the opposite sex. This finding is supported by Shingles,[6] who found that although female certified athletic trainers perceived they were adequately prepared to treat both male and female athletes' injuries, the interactions they had with female athletes were more informal or comfortable, whereas interactions with male athletes were considered ''professional'' by some women. These gender-related differences in feelings of comfort when caring for athletes of the opposite sex may have important implications for the quality of health care provided.

Patients may be less likely to disclose medical information when their physician is of the opposite sex,[7] and it has been

suggested that discomfort manifested by a physician of the opposite sex may further limit a patient's willingness to disclose.[8] Few authors have examined physicians' comfort in caring for patients of the same and the opposite sexes. Previous researchers reported[9–12] that physician trainees believe they are poorly prepared, resulting in discomfort in conducting sex-sensitive examinations. Lurie et al[13] found that among family physicians and internists, female physicians rated comfort significantly higher than male physicians for the performance of Pap smears, breast examinations, and sexual histories for women, whereas male physicians rated comfort significantly higher than female physicians for performing prostate examinations and sexual histories for men. This result was later supported by Paluska and D'Amico,[8] who found significant differences between male and female residents for reported comfort in managing sex-related health care issues. Comfort with care increased during residency from postgraduate year 1 to year 3, indicating that experience can improve some of the discomfort reported in providing care to the opposite sex.

Few authors have examined the level of comfort of allied health care professionals toward clinical interactions having sexual connotations. Health care professionals are often uncomfortable, reluctant, and unprepared when discussing sexuality with clients,[14] with reasons including lack of knowledge,[15] poor attitudes,[16] personal value systems,[17] sexual stereotypes and myths,[14,18] and a lack of practical skills in sexual history taking and management of sexual concerns.[17] Weerakoon et al[19] investigated the level of comfort of 1132 students enrolled in the professional educational degree programs of physical therapy, occupational therapy, medical radiation sciences, rehabilitation counseling, leisure and health sciences, and behavioral health science. Level of comfort was assessed using a questionnaire with 19 items reflecting sexual connotations. The 3 items perceived as most uncomfortable were *walking in on a patient/client who is masturbating* (92.7%), *dealing with a patient/client who makes an overt sexual remark* (78.8%), and *dealing with a patient/client who makes a covert sexual remark* (74.7%). Significant gender differences were found, with women reporting more discomfort than men for these 3 items. Level of comfort with same- and opposite-sex patients/clients was not reported.

Because athletic training as an allied health care profession is applied in nature and diverse in the scope of injuries and issues treated, the athletic trainer may experience similar comfort concerns as do physicians and other allied health care professions regarding specific injuries and issues. However, we found no literature in this regard. Our purpose was to examine the comfort levels of women and men in athletic training in caring for gender-specific and non-gender-specific injuries and issues of female and male athletes. Our hypothesis was that women would feel more comfortable providing care to the female athletes, whereas men would feel more comfortable providing care to the male athletes. In addition, comfort caring for these specific injuries and issues was examined in relation to level of athletic training experience. We predicted, consistent with previous findings,[8] that comfort caring for these specific injuries and issues would increase with level of athletic training experience. We also examined the underlying reasons of discomfort related to these injuries and issues, anticipating that gender-related reasons would be reported most commonly.

METHODS

Subjects

Twenty-one athletic training education program directors were randomly selected and invited by e-mail to participate in the study. A total of 14 program directors, representing the 10 National Athletic Trainers' Association districts, ultimately agreed to participate. In the initial e-mail to solicit participation, program directors were asked to indicate the number of undergraduate senior athletic training students and clinical instructors affiliated with the university athletic training education program.

Instrumentation

To generate an item pool for the Gender Comfort in Athletic Training Questionnaire, a list of 17 non-gender-specific athletic injuries and issues common to the athletic training profession was created with the assistance of 3 certified athletic trainers, 1 of whom was an athletic training education program director. These 17 items were shared in both a female athlete scenario and a male athlete scenario. In addition, 3 gender-specific items were added to each respective scenario. Each scenario was prefaced with the instructions, ''The following is a list of 20 injuries or issues that an athletic trainer may be exposed to in the athletic training profession. As you read through the injuries and issues, relate each of these to the female athlete (or respective male athlete).''

To allow for greater variability, responses to the questionnaire were scored on a 5-point scale anchored by 1 (*very uncomfortable*) and 5 (*very comfortable*). In conjunction with each item, 5 possible reasons for any discomfort were given. A participant who reported being *very uncomfortable* (1) or *uncomfortable* (2) in caring for any injury or issue was asked to circle the most influential reason for discomfort. The categories of reasons for discomfort included *gender related, liability, confidence level, experience level,* and *other.*

Initially, to estimate internal consistency and to eliminate items having low item-remainder correlations, the 40-item questionnaire was administered to 26 participants (13 women; 13 men) of different experiential levels (athletic training student to certified athletic trainer). The Cronbach alpha was .92 for the female athlete scenario and .93 for the male athlete scenario. No items were deleted from the questionnaire. Face validity of the questionnaire was confirmed by experts in the field of athletic training (1 athletic training program director, 1 head athletic trainer, and 1 athletic training student).

Procedures

A total of 235 Gender Comfort in Athletic Training Questionnaires were mailed to 14 program directors, who were asked to distribute the questionnaires to undergraduate senior athletic training students and clinical instructors affiliated with the program. The questionnaire was prefaced with an explanation of the study, including risks, benefits, time requirements, confidentiality, the voluntary nature of completing the questionnaire, and instructions regarding its return. The questionnaires were returned to the investigators by program directors in self-addressed, stamped envelopes. An institutional review board approved the study, and we obtained written consent from program directors before mailing questionnaires.

Table 1. Mean Comfort Levels of Certified Athletic Trainers by Sex When Caring for the Female Athlete (Analysis of Covariance)*

Injury or Issue	Mean		Adjusted Mean†		
	Women (n = 45)	Men (n = 46)	Women (n = 45)	Men (n = 46)	$F_{1,88}$
Hypertension	4.09	3.95	4.12	3.92	1.08
Head/neck	4.36	4.52	4.41	4.43	0.18
Pregnancy‡	3.61	3.11	3.63	3.09	4.66§
Depression	3.27	3.35	3.25	3.37	0.30
Urinary tract infection	3.86	3.22	3.88	3.20	7.81§
Gastrointestinal disorder	3.97	3.68	4.04	3.62	4.94§
Ankle	4.79	4.82	4.79	4.91	0.05
Back	4.36	4.53	4.38	4.51	0.86
Knee	4.72	4.77	4.73	4.77	0.08
Dysmenorrhea‡	3.84	2.86	3.90	2.89	25.18‖
Groin	4.40	3.93	4.46	3.89	10.44§
Shoulder	4.70	4.71	4.73	4.67	0.28
Rib	4.54	4.48	4.58	4.45	0.75
Vaginal‡	2.95	2.20	2.98	2.16	11.19§
Sexually transmitted diseases	3.02	2.91	3.02	2.91	0.19
Addiction	3.11	3.44	3.11	3.43	2.26
Abdominal	4.13	4.24	4.17	4.20	0.01
Chest	4.11	3.91	4.19	3.83	3.82
Eating disorder	3.70	3.28	3.73	3.26	4.20§
Hip	4.45	4.31	4.49	4.26	2.68

*1 = *very uncomfortable,* 2 = *uncomfortable,* 3 = *neutral,* 4 = *comfortable,* 5 = *very comfortable.*
†Means adjusted for sex by years of experience.
‡Gender-specific injury or issue.
§Significant at $P < .05$.
‖Significant at $P < .001$.

Data Analyses

We used a 1-way analysis of covariance (ANCOVA) to examine differences in self-reported comfort between male and female certified athletic trainers, while controlling for the variance contributed by years of experience. With the *t* test for independent means, we examined differences in self-reported comfort between senior athletic training students and certified athletic trainers. The chi-squared test was used to compare the differences in proportions with respect to sex by reason for discomfort across injuries and issues. The chi-squared test was also used to compare the differences in proportions with respect to level of experience by reason for discomfort across injuries and issues. All data analyses were performed with the SPSS statistical software package (version 10.1; SPSS Inc, Chicago, IL).

RESULTS

One hundred ninety-two questionnaires (from 103 women, 89 men) were completed and returned, yielding an 82% return rate. Participants ranged in age from 19 to 64 years (mean = 25.6). A total of 101 participants (53%) were senior athletic training students (64 women, 37 men). Ninety-one (47%) were certified athletic trainers (45 women, 46 men), with 8 (8.8%) holding certification for less than 1 year (6 women, 2 men), 6 (6.6%) for 1 year (2 women, 4 men), 17 (18.7%) for 2 years (14 women, 3 men), 6 (6.6%) for 3 years (4 women, 2 men), 2 (2.2%) for 4 years (2 women, 0 men), and 52 (57.1%) for 5 years or more (17 women, 35 men).

Differences Related to Non-Gender-Specific Injuries and Issues

For the female athlete scenario, a 1-way ANCOVA revealed significant differences between the mean ratings for women and men in caring for groin injuries ($F_{1,88} = 10.44$, $P = .002$), urinary tract infections ($F_{1,88} = 7.81$, $P = .006$), gastrointestinal disorders ($F_{1,88} = 4.94$, $P = .029$), and eating disorders ($F_{1,88} = 4.20$, $P = .043$) (Table 1). Women reported more comfort than men caring for these injuries and issues.

The *t* test for independent means revealed a significant difference between the mean ratings for certified athletic trainers and athletic training students in caring for the female athlete for head/neck ($t_{189} = 4.169$, $P = .000$), ankle ($t_{189} = 2.560$, $P = .011$), back ($t_{189} = 2.072$, $P = .040$), knee ($t_{189} = 2.723$, $P = .007$), groin ($t_{189} = 2.670$, $P = .008$), shoulder ($t_{189} = 3.539$, $P = .001$), rib ($t_{189} = 2.083$, $P = .039$), and chest injuries ($t_{189} = 2.220$, $P = .028$); gastrointestinal disorders ($t_{189} = 2.130$, $P = .034$); and addictions ($t_{189} = -2.067$, $P = .040$) (Table 2). Certified athletic trainers reported more comfort than athletic training students in caring for head/neck, ankle, back, knee, groin, shoulder, rib, and chest injuries and gastrointestinal disorders. However, athletic training students reported more comfort than certified athletic trainers in caring for addictions (mean = 3.56 versus 3.27).

For the male athlete scenario, a 1-way ANCOVA revealed significant differences between the mean ratings for women and men in caring for groin injuries ($F_{1,88} = 4.09$, $P = .046$), with men reporting more comfort than women (mean = 4.45 versus 4.12) (Table 3). Our results showed no significant differences in the remaining non-gender-specific injuries and issues.

The *t* test for independent means (Table 4) revealed a significant difference between the mean ratings for certified athletic trainers and athletic training students caring for the male athlete for head/neck ($t_{189} = 3.798$, $P = .000$), ankle ($t_{189} = 2.666$, $P = .008$), knee ($t_{189} = 2.831$, $P = .005$), groin ($t_{189} = 3.303$, $P = .001$), shoulder ($t_{189} = 3.390$, $P = .001$), and rib injuries ($t_{189} = 2.653$, $P = .009$) and for addictions (t_{189}

Table 2. Mean Comfort Levels by Experiential Level When Caring for the Female Athlete*

Injury or Issue	Certified Athletic Trainers (n = 91) Mean	Certified Athletic Trainers (n = 91) SD	Athletic Training Students (n = 101) Mean	Athletic Training Students (n = 101) SD	t_{189}	*P*
Hypertension	4.01	.88	3.98	.81	.252	.801
Head/neck	4.42	.67	3.92	.95	4.169	.000‡
Pregnancy†	3.35	1.14	3.28	1.06	.453	.651
Depression	3.31	1.02	3.38	.92	−.532	.596
Urinary tract infection	3.53	1.12	3.44	.98	.575	.566
Gastrointestinal disorder	3.82	.90	3.55	.83	2.130	.034‡
Ankle	4.78	.46	4.58	.62	2.560	.011‡
Back	4.43	.63	4.21	.78	2.072	.040‡
Knee	4.73	.57	4.47	.71	2.723	.007‡
Dysmenorrhea†	3.34	1.10	3.41	1.07	.856	.652
Groin	4.15	.87	3.82	.85	2.670	.008‡
Shoulder	4.68	.53	4.34	.76	3.539	.001‡
Rib	4.50	.72	4.26	.81	2.083	.039‡
Vaginal†	2.57	1.16	2.75	1.09	−1.068	.287
Sexually transmitted diseases	2.96	1.12	3.1	1.06	−1.148	.252
Addiction	3.27	.97	3.56	.94	−2.067	.040‡
Abdominal	4.17	.81	4.05	.75	1.039	.300
Chest	4.00	.87	3.72	.84	2.220	.028‡
Eating disorder	3.48	1.05	3.49	.99	−.042	.967
Hip	4.36	.66	4.18	.77	1.708	.089

*1 = *very uncomfortable,* 2 = *uncomfortable,* 3 = *neutral,* 4 = *comfortable,* 5 = *very comfortable.*
†Gender-specific injury or issue.
‡Significant at $P < .05$ (2 tailed).

Table 3. Mean Comfort Levels of Certified Athletic Trainers by Sex When Caring for the Male Athlete*

Injury or Issue	Mean Women (n = 45)	Mean Men (n = 46)	Adjusted Mean† Women (n = 45)	Adjusted Mean† Men (n = 46)	$F_{1,88}$
Hypertension	4.06	3.97	4.09	3.94	0.55
Head/neck	4.34	4.55	4.39	4.50	0.69
Testicular‡	2.72	3.62	2.78	3.56	13.34§
Depression	3.22	3.46	3.21	3.47	1.20
Urinary tract infection	3.34	3.40	3.38	3.35	0.02
Gastrointestinal disorder	3.70	3.95	3.75	3.90	0.68
Ankle	4.75	4.80	4.77	4.77	0.00
Back	4.31	4.52	4.33	4.50	1.72
Knee	4.75	4.77	4.78	4.74	0.11
Enlarged prostate‡	2.20	2.53	2.20	2.53	2.01
Groin	4.06	4.51	4.12	4.45	4.09§
Shoulder	4.65	4.73	4.69	4.70	0.00
Rib	4.54	4.65	4.56	4.63	0.38
Scrotum‡	2.45	3.22	2.49	3.18	8.72§
Sexually transmitted diseases	3.00	3.31	3.04	3.26	0.83
Addiction	3.06	3.37	3.06	3.39	1.88
Abdominal	4.18	4.33	4.21	4.30	0.25
Chest	4.31	4.35	4.34	4.32	0.02
Eating disorder	3.65	3.48	3.67	3.47	0.79
Hip	4.40	4.46	4.43	4.44	0.01

*1 = *very uncomfortable,* 2 = *uncomfortable,* 3 = *neutral,* 4 = *comfortable,* 5 = *very comfortable.*
†Means adjusted for sex by years of experience.
‡Gender-specific injury or issue.
§Significant at $P < .05$.
‖Significant at $P < .001$.

= −3.058, $P = .003$). Certified athletic trainers reported more comfort than athletic training students caring for head/neck, ankle, knee, groin, shoulder, and rib injuries. However, athletic training students reported more comfort than certified athletic trainers caring for addictions (mean = 3.64 versus 3.22).

Differences Related to Gender-Specific Injuries and Issues

For the female athlete scenario (see Table 1), a 1-way ANCOVA revealed significant differences between the mean rat-

Table 4. Mean Comfort Levels by Experiential Level When Caring for the Male Athlete*

	Certified Athletic Trainers (n = 91)		Athletic Training Students (n = 101)			
Injury or Issue	Mean	SD	Mean	SD	t_{189}	*P*
Hypertension	4.01	.90	4.02	.75	−.155	.877
Head/neck	4.43	.67	3.98	.93	3.798	.000‡
Testicular†	3.17	1.07	3.10	1.01	.454	.650
Depression	3.34	1.05	3.51	.94	−1.180	.239
Urinary tract infection	3.36	1.08	3.44	.89	−.549	.584
Gastrointestinal disorder	3.82	.86	3.73	.84	.721	.427
Ankle	4.75	.48	4.53	.64	2.666	.008‡
Back	4.40	.59	4.24	.82	1.479	.141
Knee	4.74	.50	4.50	.64	2.831	.005‡
Enlarged prostate†	2.37	1.03	2.74	1.02	−2.444	.015‡
Groin	4.72	.79	3.90	.78	3.303	.001‡
Shoulder	4.67	.51	4.35	.75	3.390	.001‡
Rib	4.58	.56	4.32	.74	2.653	.009‡
Scrotum†	2.84	1.11	2.99	1.01	−.947	.345
Sexually transmitted diseases	3.15	1.10	3.22	.98	−.463	.644
Addiction	3.22	1.02	3.64	.87	−3.058	.003‡
Abdominal	4.24	.76	4.13	.74	1.040	.300
Chest	4.32	.65	4.19	.78	1.180	.240
Eating disorder	3.56	.99	3.59	.90	−.199	.842
Hip	4.42	.61	4.26	.73	1.568	.118

*1 = *very uncomfortable,* 2 = *uncomfortable,* 3 = *neutral,* 4 = *comfortable,* 5 = *very comfortable.*
†Gender-specific injury or issue.
‡Significant at $P < .05$ (2 tailed).

ings for women and men caring for vaginal injuries ($F_{1,88} = 11.19$, $P = .001$), pregnancy ($F_{1,88} = 4.66$, $P = .034$), and dysmenorrhea ($F_{1,88} = 25.18$, $P = .000$), with women reporting more comfort than men caring for these injuries and issues. Our results showed no significant differences between the mean ratings for certified athletic trainers and athletic training students for gender-specific injuries and issues related to the female athlete (see Table 2).

For the male athlete scenario (see Table 3), a 1-way ANCOVA revealed significant differences between the mean ratings for women and men caring for testicular ($F_{1,88} = 13.34$, $P = .000$) and scrotal ($F_{1,88} = 8.72$, $P = .004$) injuries, with men reporting more comfort than women in caring for these injuries. The *t* test for independent means (see Table 4) revealed a significant difference between the mean ratings for certified athletic trainers and athletic training students in caring for an enlarged prostate ($t_{189} = -2.444$, $P = .015$), with athletic training students reporting more comfort than certified athletic trainers (mean = 2.74 versus 2.37).

Reasons for Discomfort

Only those injuries and issues reflecting an overall mean rating of less than 3.00 (indicating that the treater was uncomfortable or very uncomfortable) are reported (Tables 5 and 6). The chi-squared test revealed a significant difference between women and men in their responses to the reasons for discomfort regarding sexually transmitted diseases for the female athlete ($P = .035$) and vaginal injuries ($P = .021$) (see Table 5). For sexually transmitted diseases, a significantly greater proportion of men than women selected *gender related* as the reason for discomfort (25.0% versus 0%), whereas a significantly greater proportion of women than men selected *experience level* as the reason for discomfort (73.3% versus 25.0%). For vaginal injuries, a significantly greater proportion of men than women selected *gender related* as the reason for discomfort (46.4% versus 5.9%), whereas a significantly greater proportion of women than men selected *experience level* as the reason for discomfort (58.8% versus 17.9%).

The chi-squared test revealed a significant difference between certified athletic trainers and athletic training students in their responses to the reasons for discomfort regarding sexually transmitted diseases for the female athlete ($P = .045$) (see Table 6). A significantly greater proportion of certified athletic trainers than athletic training students selected *liability* and *other* as reasons for discomfort (19.4% versus 3.4% and 19.4% versus 6.9%, respectively), whereas a significantly greater proportion of athletic training students than certified athletic trainers selected *confidence* as the reason for discomfort (13.8% versus 0%). The most frequent reason specified in the *other* category was that these injuries and issues are not typically managed by the athletic trainer.

DISCUSSION

As hypothesized, and overall, women appeared to be more comfortable caring for the female athlete, whereas men appear to be more comfortable caring for the male athlete. These findings are consistent with previous studies.[8,13] Our results also showed that certified athletic trainers, overall, reported more comfort than athletic training students caring for specific injuries and issues in both female and male athletes. This finding was expected as a result of the greater level of experience of the certified athletic trainers.

It is interesting, although not surprising, that women reported significantly more comfort than men caring for groin injuries for female athletes, whereas men reported significantly more comfort than women caring for groin injuries for male athletes. Although the groin injury in this study was not considered gender specific, caring for a patient with this injury is certainly of

Table 5. Reasons for Discomfort Across Injuries and Issues Comparison by Sex: Percentage (Frequency)

Injury or Issue	Gender Related	Liability	Confidence	Experience	Other	*P**
Sexually transmitted diseases (female)						
Women	0 (0)	13.3 (2)	0 (0)	73.3 (11)	13.3 (2)	.035†
Men	25.0 (4)	25.0 (4)	0 (0)	25.0 (4)	25.0 (4)	
Dysmenorrhea						
Women	0 (0)	16.7 (1)	0 (0)	66.7 (4)	16.7 (1)	.524
Men	23.5 (4)	11.8 (2)	0 (0)	35.3 (6)	17.6 (3)	
Vaginal						
Women	5.9 (1)	17.6 (3)	0 (0)	58.8 (10)	17.6 (3)	.021†
Men	46.4 (13)	14.3 (4)	3.6 (1)	17.9 (5)	17.9 (5)	
Testicular						
Women	57.1 (12)	4.8 (1)	0 (0)	33.3 (7)	4.8 (1)	.088
Men	42.9 (3)	0 (0)	0 (0)	14.3 (1)	42.9 (3)	
Enlarged Prostate						
Women	21.9 (7)	6.3 (2)	0 (0)	62.5 (20)	9.4 (3)	.119
Men	8.0 (2)	0 (0)	4.0 (1)	60.0 (15)	28.0 (7)	
Scrotal						
Women	55.2 (16)	3.4 (1)	3.4 (1)	34.5 (10)	3.4 (1)	.073
Men	15.4 (2)	7.7 (1)	0 (0)	53.8 (7)	23.1 (3)	

**P* value determined by chi-squared test.
†Significant at $P < .05$.

Table 6. Reasons for Discomfort Across Injuries and Issues by Experiential Level: Percentage (Frequency)

Injury or Issue	Gender Related	Liability	Confidence	Experience	Other	*P**
Vaginal						
Certified athletic trainers	31.1 (14)	15.6 (7)	2.2 (1)	33.3 (15)	17.8 (8)	.088
Athletic training students	47.9 (23)	6.3 (3)	2.1 (1)	37.5 (18)	6.3 (3)	
Sexually transmitted diseases (female)						
Certified athletic trainers	12.9 (4)	19.4 (6)	0 (0)	48.4 (15)	19.4 (6)	.045†
Athletic training students	17.2 (5)	3.4 (1)	13.8 (4)	58.6 (17)	6.9 (2)	
Enlarged prostate						
Certified athletic trainers	15.8 (9)	3.5 (2)	1.8 (1)	61.4 (35)	17.5 (10)	.098
Athletic training students	23.5 (12)	0 (0)	7.8 (4)	62.7 (32)	5.9 (3)	
Scrotal						
Certified athletic trainers	42.9 (18)	4.8 (2)	2.4 (1)	40.5 (17)	9.5 (4)	.446
Athletic training students	48.7 (19)	0 (0)	7.7 (3)	38.5 (15)	5.1 (2)	

**P* value determined by chi-squared test.
†Significant at $P < .05$.

a more intimate nature. Also, experience appears to affect the comfort level in caring for groin injuries, with certified athletic trainers reporting significantly more comfort than athletic training students caring for both female and male athletes.

A salient finding was the areas of significant differences regarding reported comfort caring for gender-specific injuries and issues. Women reported significantly more comfort than men with regard to caring for female athlete gender-specific injuries and issues (specifically, vaginal injuries, pregnancy, and dysmenorrhea), whereas men reported significantly more comfort than women with regard to caring for male athlete gender-specific injuries (specifically, testicular and scrotal injuries). Our findings are consistent with previous literature regarding physicians' comfort in providing care to patients of the opposite sex.[8,13] This perception of discomfort in caring for the opposite sex may be culturally based.

Specifically, female and male certified athletic trainers may have underlying cultural reservations regarding caring for injuries and issues in intimate areas. It is possible that experience with these particular injuries and issues may not influence what is culturally embedded. The fact that certified athletic trainers did not report more comfort than athletic training students in caring for these gender-specific injuries and issues supports the notion that experience may not enhance level of comfort. Our findings are contrary to those of Paluska and D'Amico,[8] who reported that comfort levels increased with experience. It is possible that the gender-specific injuries and issues presented in this study are not considered typical, and therefore, experiences caring for these injuries and issues may be infrequent or absent.

However, the significant difference between certified athletic trainers and athletic training students with regard to caring for groin injuries in both female and male athletes indicates that level of experience or educational factors may affect comfort in caring for more typical injuries of an intimate nature. With this in mind, early education in caring for athletes of the op-

posite sex through specific clinical experiences and didactic curricula may improve comfort with injuries and issues of a more intimate nature.

We hypothesized that the most common underlying reason reported for lack of comfort in caring for injuries and issues of the opposite sex would be gender related. This was true only for men, who reported gender-related lack of comfort in a significantly greater proportion than women when caring for sexually transmitted diseases and vaginal injuries in the female athlete. Overall, *experience level* was the most commonly reported underlying reason for discomfort. This was the most notable finding reported by both female and male certified athletic trainers and athletic training students. This result implies that those injuries and issues of a more intimate nature could perhaps be dealt with more comfortably if deliberate experiences were presented early in the athletic training education program.

To simply offer clinical experiences to athletic training students does not ensure that students are exposed to the types of experiences necessary to develop comfort with caring for specific athlete injuries and issues. As Weidner and August[20] contended, often clinical experiences are somewhat random because of the arbitrary and inconsistent methods used by the clinical instructors. This variation may affect the amount and depth of a student's experience in caring for less typical or more intimate injuries and issues. Carpenito and Duespohl[21] suggested that formal and consistent clinical education would help to ensure that all students are exposed to a comprehensive uniform clinical experience. Further research beyond the scope of this article would be necessary to determine the amount of exposure necessary to develop comfort with specific athlete injuries and issues.

Limitations

Experiential levels in this study were based on length of experience in athletic training, with senior-level athletic training students assumed to have limited experience and certified athletic trainers assumed to have a greater amount of experience. However, these assumptions may not cover the full range of possibilities relative to levels of experience. To examine the true effects of experience and its influence on perceived comfort, earlier undergraduate classifications should be included in the survey, with more comparisons between classifications and groupings of years of experience as a certified athletic trainer. It is also important to note that the implications of improved comfort with experience may not differentiate between the effects of *training* and the effects of knowledge or maturation. A more in-depth study examining actual hands-on or clinical training with specific injuries and issues would be needed to make such a distinction.

CONCLUSIONS

Although senior athletic training students and certified athletic trainers reported feeling that their education adequately prepared them to care for athletes of the opposite sex,[5] our results did not fully support this contention. Our results, which indicated a tendency for clinical- and educational-related improvements in comfort when caring for opposite-sex athletes, indicate a need for educators to provide early and deliberate experiences with injuries and issues of a more intimate nature, including those both non-gender specific and gender specific. These early experiences may lead to increased comfort in providing care to athletes of the opposite sex. We encourage educators to look closely at the clinical and didactic experiences of their students to decide which, if any, curricular changes may be helpful to improve athletic training preparation related to care of female and male athletes.

ACKNOWLEDGMENTS

We extend our gratitude to J. T. Johnson, PhD, for his statistical contribution to this manuscript. We also thank all the participating program directors who took the time to distribute, collect, and return the questionnaires.

REFERENCES

1. Arnheim DD, Prentice WE. *Principles of Athletic Training.* 10th ed. Boston, MA: McGraw-Hill; 2000:2–34.
2. Women in Athletic Training Committee. Women in athletic training survey. Available at: http://www.nata.org/women/female.html. Accessed May 18, 2004.
3. Women in Athletic Training Committee. Women in athletic training survey. Available at: http://www.nata.org/women/male.html. Accessed May 18, 2004.
4. Joint Review Committee on Educational Programs in Athletic Training. *Interpretation Manual for the 2001 Accreditation Standards and Guidelines.* Centennial, CO: Joint Review Committee on Educational Programs in Athletic Training; 2001.
5. Drummond JL, Velasquez BJ, Cross RS, Jones ML. Self-reported comfort in athletic training to same- and opposite-sex athletes. *Percept Mot Skills.* 2004;99:337–340.
6. Shingles RR. *Women in Athletic Training: Their Career and Educational Experiences* [dissertation]. East Lansing, MI: Michigan State University; 2001.
7. Young JW. Symptom disclosure to male and female physicians: effects of sex, physical attractiveness, and symptom type. *J Behav Med.* 1979;2: 159–169.
8. Paluska S, D'Amico FJ. The comfort of family practice residents with health care of patients of the opposite gender. *Fam Med.* 2000;32:612–617.
9. Abraham S. Vaginal and speculum examination in medical curricula. *Aust N Z J Obstet Gynaecol.* 1995;35:56–60.
10. Frye CA, Weisberg RB. Increasing the incidence of routine pelvic examinations: behavioral medicine's contribution. *Women's Health.* 1994;21:33–55.
11. Hennigan TW, Franks PJ, Hocken DB, Allen-Mersh TG. Influence of undergraduate teaching on medical students' attitudes to rectal examination. *BMJ.* 1991;302:829.
12. Wilt TJ, Cutler AF. Physician performance and patient perceptions during the rectal examination. *J Gen Intern Med.* 1991;6:514–517.
13. Lurie N, Margolis K, McGovern P, Mink P. Physician self-report of comfort and skill in providing preventive care to patients of the opposite sex. *Arch Fam Med.* 1998;7:134–137.
14. Guthrie C. Nurses' perceptions of sexuality relating to patient care. *J Clin Nurs.* 1999;8:313–321.
15. Zelas K. Sex and the doctor-patient relationship. *N Z Med J.* 1997;110: 60–62.
16. Morrissey M. Attitudes of practitioners to lesbian, gay and bisexual clients. *Br J Nurs.* 1996;5:980–982.
17. Herson L, Hart KA, Gordon MJ, Rintala DH. Identifying and overcoming barriers to providing sexuality information in the clinical setting. *Rehabil Nurs.* 1999;24:148–151.
18. Evans DT. Speaking of sex: the need to dispel myths and overcome fears. *Br J Nurs.* 2000;9:650–655.
19. Weerakoon P, Jones MK, Pynor R, Kilburn-Watt E. Allied health professional students' perceived level of comfort in clinical situations that have sexual connotations. *J Allied Health.* 2004;33:189–193.
20. Weidner TG, August JA. The athletic therapist as clinical instructor. *Athl Ther Today.* 1997;2(1):49–52.
21. Carpenito JL, Duespohl TA. *A Guide for Effective Clinical Instruction.* Rockville, MD: Aspen; 1985.