

## Pruritus Vulva in Adolescent Females in Arar City, KSA

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### ABSTRACT

**Background:** Pruritus vulvae or vulvar itch is an unpleasant vulvar sensation that provokes the urge to scratch to obtain relief. It is a common complaint in females of all ages. A pruritus vulva is not a condition. It is the symptom of various -most often benign, sometimes malignant – disorders. The study **aimed** at investigating the prevalence in vulval itching and its manifestations and causes among young females in Arar city, KSA. **Methods:** This is across sectional study conducted among 300 of the studied women, Arar, KSA. Data were collected by using pre designed online questionnaire which include questions designed to fulfill the study objectives. **Results:** Pruritus vulvae were found in 30.7% of the studied sample. Most (60.7) of the examined girls age was between 15- 20 years old. 79.3% of the sample was single (unmarried). Manifestations of pruritus vulvae were 43.5% redness, 21.7% edema, 67.4% reported association of pruritus with increased vaginal discharge. 56.5% reported increased pruritus before menses and 37% after. Only 37% of the pruritus cases asked for medical help but only 23.9% got better after treatment. There was a significant correlation between pruritus vulvae and both age group and marital status ( $P= 0.001$ ). **Conclusion:** Pruritus vulvae were found in 30.7% of the studied sample. Prevention of genitourinary infection among adolescents regarding personal hygiene is mandatory. Recommendations include counseling during periodic medical examination about personal hygiene, especially during menstruation.

**Keywords:** Adolescents, Female genitourinary tract, Pruritus Vulva, Genitourinary infection, Hygiene, Personal hygiene. Arar City, KSA

### INTRODUCTION

Itch is the most frequent symptom in dermatology and has been intensively studied in recent years. Nevertheless, there are few true epidemiological studies on itch<sup>(1)</sup>. Pruritus vulvae simply mean itching of the vulva. Most women experience a slight vulval itch occasionally. However, pruritus vulvae means the itch is persistent and causes distress. About 1 woman in 10 visits a doctor about a persistent itchy vulva at some stage in her life. Vulval itching can affect any woman, at any age. It can lead to scratching and rubbing which can break the skin and can lead to soreness, bleeding and skin infections<sup>(2)</sup>. Vulvo-vaginal pH is high in childhood, but in puberty the pH starts to decrease from an average of 7 to an average of 4 in adult women. An increase of pH may activate the proteinase-activated receptor-2 (PAR-2) which is a well-known itch mediator<sup>(3)</sup>. Unlike other areas of the skin, the vulva is difficult for the patient to examine herself. Additionally, genital skin symptoms often trigger concerns of poor hygiene, sexually transmitted infections, or undiagnosed cancer, all of which can elicit embarrassment, fear, and anxiety<sup>(4)</sup>. Clinical experience indicates that patients frequently do not consult a doctor for acute itch, but more often do for chronic itch<sup>(1)</sup>.

This study aimed at investigating the prevalence in vulval itching and its manifestations and causes among young females in Arar city, KSA.

### PATIENTS AND METHODS

**Study design and setting:** A cross-sectional study was carried out on female population of Arar, Northern Province of Saudi Arabia, KSA.

**Sampling:** The sample size was calculated using the sample size equation:  $n = z^2 p(1-p)/e^2$ . Data were collected from Arar general female population. Systematic random sampling technique was followed.

**Data collection:** Data was collected by using pre designed online questionnaire which include questions designed to fulfill the study objectives. Socio-demographic characteristics including age, educational level, marital status and occupational status. Questions about itching, its timing, duration and recurrence. If the case was diagnosed and how it was diagnosed.

**Statistical Analysis:** All the data were analyzed using statistical package for social sciences (SPSS Inc.) version 20. Descriptive statistics were done for the prevalence and quantitative variables. Risk factors were determined using logistic regression. A 2-sided p-value of less than 0.05 was considered statistically significant.

**Ethical considerations:** Permission to conduct the study was obtained from the Research and Ethics Committee at the College of Medicine, Northern Border University, Saudi Arabia. The questionnaire had a brief introduction explaining the aims and significance of the study. All answers were kept confidentially and safe.

## RESULTS

Table 1 shows that most (60.7) of the studied girls age was between 15- 20 years old. 79.3% of the sample was single (unmarried). 30.7% of the studied sample had pruritus vulvae.

Table 2 reports manifestations of pruritus vulvae as shown (43.5% had redness, 21.7% had edema). 87% reported that scratching makes itching worsen. 67.4% reported association of pruritus with increased vaginal discharge. 56.5% reported increased pruritus before menses and 37% after. Only 37% of the pruritus cases asked for medical help but only 23.9% got better after treatment.

As shown in table 3; there was a significant correlation between pruritus vulvae and both age group and marital status ( $P= 0.001$ ).

**Table (1):** Age group, marital status and prevalence of pruritus vulvae among the studied women, Arar, 2018(N=300).

	Frequency(No.)	Percent (%)
<b>Age group</b>		
15-20	182	60.7
21-25	82	27.3
26-35	24	8.0
>35	12	4.0
<b>Marital status</b>		
Single	238	79.3
Married	62	20.7
<b>Pruritus vulvae</b>		
Yes	92	30.7
No	208	69.3

**Table (2):** Manifestations, diagnosis of the cause and treatment of pruritus vulvae among the studied cases, Arar, 2018 (N=92).

Variable	(No.)	Percent (%)
<b>Redness of the vulva</b>		
Yes	40	43.5
No	52	56.5
<b>Edema of the vulva</b>		
Yes	20	21.7
No	72	78.3
<b>Scratching makes itching worse</b>		
Yes	80	87.0
No	12	13.0
<b>Increased pruritus in relation to menses</b>		
After	52	56.5
Before	34	37.0
No relation	6	6.5
<b>Association of pruritus with increased vaginal discharge</b>		
Yes	62	67.4
No	30	32.6
<b>Discharge color</b>		
Colorless	44	47.9
Whitish	38	41.3
Yellowish	16	17.4
<b>Smell of the discharge</b>		
Non-offensive	34	37.0
Offensive	58	63.0
<b>Increased discharge in relation to menses</b>		
After	46	50.0
Before	44	47.8
No relation	2	2.2
<b>Dysuria</b>		
Yes	28	30.4
No	64	69.6
<b>Seeking medical advice for pruritus vulvae</b>		
Yes	34	37.0
No	58	63.0
<b>Diagnosis of the cause of pruritus vulvae</b>		
Bacterial infection	44	47.9
Fungal infection	20	21.7
Sexually transmitted infections	4	4.3
Not diagnosed	24	
<b>Medical treatment</b>		
Yes	32	34.8
No	60	65.2
<b>Improvement on medical treatment</b>		
Yes	22	23.9
No	70	76.1
<b>Recurrent infection after treatment</b>		
Yes	20	21.7
No	72	78.2

**Table (3):** Relationship between pruritus vulvae and age group and marital status among the studied women, Arar, 2018(N=300).

	Pruritus vulvae		Total (n=300)	P value
	Yes (n=92)	No (n=208)		
<b>Age group</b>				
15-20	34 37.0%	148 71.2%	182 60.7%	0.001
21-25	38 41.3%	44 21.2%	82 27.3%	
26-35	16 17.4%	8 3.8%	24 8.0%	
>35	4 4.3%	8 3.8%	12 4.0%	
<b>Marital status</b>				
Single	60 65.2%	178 85.6%	238 79.3%	0.001
Married	32 34.8%	30 14.4%	62 20.7%	

## DISCUSSION

Pruritus vulvae or vulvar itch is an unpleasant vulvar sensation that provokes the urge to scratch to obtain relief. This symptom is present in 36–45 % of the patients consulting in a vulvar clinic<sup>(5, 6)</sup>. It is a common complaint in females of all ages. A pruritus vulva is not a condition. It is the symptom of various -most often benign, sometimes malignant – disorders<sup>(7)</sup>. This is across sectional study conducted among 300 of the studied women, Arar, KSA. The study aimed at investigating to examine the prevalence in valval itching and its manifestations and causes among young females in Arar city, KSA.

Our study reported that the prevalence of Pruritus vulvae was 30.7%. In Nepal a study was carried out to investigate the frequency and clinical patterns of vulvar diseases in patients attending a tertiary care hospital in eastern Nepal; pruritus vulvae represent (36.19%) of the patients<sup>(8)</sup>. Community-based surveys indicated that 1 in 5 women (20%) presenting to their GP with valval symptoms have pruritus vulva<sup>(9)</sup>. In Yazd city, Iran a cross- sectional comparative and prospective study of genital infections was conducted in health centers university-affiliated teaching among 360 women to determine causes and symptoms of vaginitis reported, 36 cases (10%) had irritation and itching<sup>(10)</sup>. Pruritus vulvae are always associated with some dermatological conditions for example Psoriasis. Psoriasis is considered as a cause of

vulvar discomfort in approximately 5% of all women with itching or burning of the vulva<sup>(11)</sup>. A study was conducted among 93 women with psoriasis to evaluate the frequency of vulvar itching and

burning; 41 women (44.1%) experienced vulvar discomfort: 18 (19.4%) reported itching, 10 (10.8%) burning, and the remaining 13 (14.0%) both itching and burning<sup>(12)</sup>. Another study was done on 76 women with vulvodynia. It was found that vulvar burning is the most commonly reported symptom by (88.2%) followed by vulvar itching (60.5%)<sup>(13)</sup>. Across sectional study conducted among women reporting a history of chronic vulvovaginitis candidiasis (VVC) classified to 48 cases with *C albicans* vulvovaginitis candidiasis from them 88.4% reported vulvar itching, 29 cases with *C glabrata* vulvovaginitis candidiasis; itching reported in 85.2% case and no-candida controls (n = 64) from them 72.2% reported itching<sup>(14)</sup>. Another study was undertaken among 120 female patients with non-venereal dermatoses of external genitalia reported itching in 61.7% of cases<sup>(15)</sup>.

Another study was conducted among 143 pregnant women having symptoms of vaginal infections; complaint of itching was present in 51.04% patients<sup>(17)</sup>. Another study conducted among 338 females. Bacterial vaginosis (BV) was diagnosed in 72.5% of female participants, among women with BV, 33.1% were colonized with yeast, vulvovaginal candidiasis was observed in 15.7% of participants irrespective of BV status, “vulvar pruritis” is more likely to be reported among women colonized with yeast (colonized and/or diagnosed with VVC) (P < 0.001, OR = 5.1 (3.2–8.3))<sup>(18)</sup>.

As regards to causes of pruritus vulva, our study reported bacterial infection (47.9%), fungal infection(21.7%) and sexually transmitted infections(4.3%). In prepubertal patients, non specific irritant dermatitis is the most common cause of pruritus vulvae<sup>(16)</sup>. A study carried out among 44 premenarchal girls with vulvar pruritus reported that 33 patients (75%) had nonspecific pruritus; lichen sclerosus, bacterial infections, yeast infection, and pinworm infestation were observed in a minority of patients<sup>(16)</sup>. Another study reported different causes of pruritus vulvae; dermatological conditions like (vulval dermatitis and lichen simplex chronicus, Lichen sclerosus, Lichen planus, psoriasis, Hidradenitis suppurativa, Behçet’s syndrome), neoplastic causes (vulval intraepithelial neoplasia (VIN), vulval cancer), infections(Candidiasis, Trichomoniasis, Bacterial vaginosis, Threadworms, Scabies, Pubic lice) and hormonal causes(Atrophic vaginitis, Breastfeeding)<sup>(19)</sup>. Our study reported an increase in vaginal discharge in 67.4% of cases, with

47.9% colorless discharge, 41.3% whitish discharge, 17.4% yellowish discharge and regarding smell. Our study reported 63% offensive discharge. Another study reported 33.33% of cases had vaginal discharge with 8.06% had gray discharge and 6.7% unpleasant odor<sup>(10)</sup>.

## CONCLUSION AND RECOMMENDATIONS

Pruritus vulvae were found in 30.7% of the studied sample. Prevention of genitourinary infection among adolescents regarding personal hygiene is mandatory. Recommendations include counseling during periodic medical examination about personal hygiene, with special attention during menstruation.

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