

## Hirsutism in Female Medical Students Living in Dormitory of Zanjan Medical Science University

<sup>1</sup>Afshar Ramezanpour, <sup>2</sup>Javad Golchai, <sup>2</sup>Shahriar Sadr Eshkevari, <sup>3</sup>Hossein Babaei and <sup>4</sup>Shiva Golshahi Rad

<sup>1</sup>Zanjan University of Medical Sciences, Dermatology Ward, Valiasr Hospital, Zanjan, Iran

<sup>2</sup>Guilan University of Medical Sciences, Dermatology Ward, Razi Hospital, Rasht, Iran

<sup>3</sup>Pediatrics Ward, <sup>4</sup>Zanjan University of Medical Sciences, Valiasr Hospital, Zanjan, Iran

**Abstract:** Hirsutism is a common disorder, often resulting from conditions that are not life-threatening. It may signal more serious clinical pathology and clinical evaluation should differentiate benign causes from tumors or other conditions. In the present descriptive study we try to evaluate prevalence of hirsutism in female student in dormitory of Zanjan University of medical sciences. By using modified Ferriman-Gallwey Lorenzo (F-G-L) method, to determine the cutoff score for identifying hirsute. Students with score equal or more than 8 determined as hirsute. After collecting data, we analyzed them by K square test in SPSS. Of 520 students, 400 had enrolled in research. Eighty nine students (22.2%) were diagnosed as cases of hirsutism. Fifty five students had positive familial history (61.8%). Significant locations of hair growth occurrence were cheek, Umbilicus, medial side of thigh, 68 patients (76.4%), 50 cases (56%) and 58 students (65.2%), respectively.

**Key words:** Hirsutism, medical students, prevalence, Ferriman-Gallwey Lorenzo (F-G-L)

### INTRODUCTION

Hirsutism is a common disorder, often resulting from conditions that are not life-threatening, it may signal more serious clinical pathology and clinical evaluation should differentiate benign causes from tumors or other conditions (Mellissa and Peter, 2003). Although, hirsutism is broadly defined as excessive hairiness, the common clinical use of the term refers to women with excess growth of terminal hair in a male pattern (Azziz *et al.*, 2000; Huntley, 1998). In this sense, hirsutism is one of the most common endocrine disorders, affecting approximately 5-10% of women (Ehrmann, 2005; Ferriman and Gallwey, 1961; Mcknight, 1964; Hartz *et al.*, 1979). In these women, the hairiness implies the presence of abnormal androgen action, which may represent a serious or, more likely, a non-serious medical problem. The presence of hirsutism is extremely distressing to patients, with a significant negative impact on their psychosocial development (Azziz, 2003; Barth *et al.*, 1993; Sonino *et al.*, 1993). Even mild cases of hirsutism may be viewed by the patient and others as a presumptive loss of femininity. In more severe cases, hirsutism can be a serious cosmetic problem. The major objectives in the management of

hirsutism are to rule out a serious underlying medical condition and to devise a plan of treatment (Knochenhauere *et al.*, 1998).

In the present descriptive study, we try to evaluate prevalence of hirsutism in female students in dormitory of Zanjan University of Medical Sciences.

### MATERIALS AND METHODS

Hirsutism was defined as an amount of terminal hair in the androgen-sensitive skin areas that the women themselves would consider obviously abnormal. By using modified Ferriman-Gallwey Lorenzo (F-G-L) method, to determine the cutoff score for identifying hirsute. Students with score equal or more than 8 determined as hirsute. The subjects were consecutive unselected female medical students who living in dorm, without any complaint. All patients completed a uniform history form and underwent a complete physical examination. All cases were studied with questionnaires that were educated previously, physical examination, body hair on 11 sites were evaluated and 9 (lip, chin, arm, thigh, chest, upper belly, upper back, lower back) of them which were called hormone Ferriman-Gallwey (F-G) score and 2 (forearm, leg)

sites of indifferent hormone score were calculated according to the score system described by Ferriman and Gallwey (1961).

Our variable factors were both qualitative and quantitative e.g., age, family and drug history and involvement sites. We used total sampling method and examined all of students with time table and then our colleagues took an exact medical, family and drug history. Also, they recorded signs and symptoms in especial check lists. The cases with positive drug history were eradicated from study. After collecting data, we analyzed them by K square test in spss.

### RESULTS AND DISCUSSION

Of 520 students, 400 who present in dorm had enrolled in our research during study period. The age range was from 18-30 years old. Eighty nine students (22.2%) were diagnosed as case of hirsutism (Table 1). Fifty-five students had positive familial history (61.8%) (Table- 2). Significant locations of hair growth occurrence were chin, lower belly, medial side of thigh, 68 patients (76.4%), 50 cases (56%) and 58 students (65.2%), respectively (Table 3).

With considering that the hirsutism is the earliest and more sensitive sign of androgen hyper secretion in females and can be sign of a serious underlying disorder, the necessity of exact evaluation is determined. Hirsutism is one of the most common endocrine disorders, affecting approximately 10% of women world wide (4, 5, 6, 7 and 8). In our study from 520 cases with age range (18-30), 85 (22%) had hirsutism that was higher than world wide reports.

Knochenhauer *et al.* (1998) have reported prevalence of hirsutism varied from 2-8% between white and black women.

Mckenna (1994) has recorded 5% women in reproductive period with Hirsutism.

Griffing and Melby (1991) has presented hirsutism affecting approximately 10% of women in the United States.

Also, Zargar *et al.* (2002) have presented in their prospective sample random research of 504 (10.5%) had hirsutism. But our results were showed higher frequency (22.2%). This discrepancy can be related race, selected samples and all of cases have stayed in dormitory at least for 1 year.

Significant hair growth may be noticed on the chin, upper lip, or sideburn area of a woman with mild hirsutism. it could also grow on the lower abdomen and around the nipples and will be the same color as the hair that grows on the woman's head, for women who suffer from more

Table 1: Distribution of hirsutism frequency

Hirsutism	Number of students	Percentage
Positive	89	22.2
Negative	311	77.8
Total	400	100.0

Table 2: Distribution of hirsute cases frequency with positive family history

Family history	Number of students	Percentage
Positive	55	61.8
Negative	34	38.2
Total	89	100.0

Table 3: Distribution of hirsute cases frequency based on involved site

Involved site	Number	Percentage
Chest	26	29.2
Chin	68	76.4
Lip	22	24.7
Inner arm	4	4.5
Lower belly	66	74.2
Upper belly	50	56.2
Back	4	4.5
Shoulder	3	3.4
Inner thigh	58	65.2

advanced cases of hirsutism, the excessive hair growth will also be on the upper abdomen, sternum, shoulders and upper back. Zhao *et al.* (2007) presented lip, chest and lower belly are the main sites to determine the hirsutism status of women. Significant locations of hair growth occurrence in our study were chin, lower belly, medial side of thigh. Present study was done in a special space with restricted samples thus for more and definite results, a wide exact study with large number sample is highly suggested.

### CONCLUSION

Through history and physical examination are essential to evaluate women with hirsutism to determine which androgen activity. The prevalence of hirsutism in our study was more than what reported in world wide. In today's world, physical appearance is extremely important to many people and how they relate to each another. It can be very stressful and embarrassing for a woman to have an excessive amount of hair growing where, it should not grow. More important point in our survey was, the involved cases have complained that this problem has started/exacerbated after living in dormitory. Type of diet, family deprivation and life change stress may be associated with disorder starting or its exacerbation?

### REFERENCES

- Azziz, R., E. Carmina and M.E. Sawoya, 2000. Idiopathic Hirsutism. *Endocr. Rev.*, 21 (4): 347-362. PMID: 10950156.

- Azziz, R., 2003. The evaluation and management of Hirsutism. *Obstet. Gynecol.*, 101: 995-1007. PMID: 12738163.
- Barth, J.H., J. Catalan, C.A. Cherry and A. Day, 1993. Psychological morbidity in women referred for treatment of hirsutism. *J. Psychosom. Res.*, 37: 615-619. PMID: 8410747.
- Ehrmann, D.A., 2005. Hirsutism and Virilization. In: Kasper, D.L., E. Braunwald and A.S. Fauci *et al.* (Eds.). *Harrison's Principles of Internal Medicine*. 16th Edn. USA: McGraw-Hill, pp: 275-278. ISBN: 0-07-139140-1(set).
- Ferriman, D. and J.D. Gallwey, 1961. Clinical assessment of body hair growth in women. *J. Clin. Endocrinol. Metab.*, 21: 1440-1447. PMID: 13892577.
- Griffing, G.T. and J.C. Melby, 1991. Hirsutism: Causes and treatment. *Hos. Prac. (off Ed.)* 30; 26 (5A): 43-58. PMID: 1827798. [www.popline.org/docs/0928/068282.html](http://www.popline.org/docs/0928/068282.html).
- Hartz, A.J., P.N. Barboriak, A. Wong, K.P. Katayama and A.A. Rimm, 1979. The association of obesity with infertility and related menstrual abnormalities in women. *Int. J. Obes.*, 3: 57-73. PMID: 528119.
- Huntley, A.C., 1996. Hirsutism and its Related Endocrine Disorder. In: Arndt, K.A., P.E. Leboit, J.K. Robinson *et al.* (Eds.). *Cutaneous Medicine and Surgery*, USA: W.B. Saunders, pp: 1853-1857. ISBN: 0-7216-4852-5.
- Knochenhauere, E.S., T.J. Key, M. Kahsar-Miller and W. Waggoner *et al.*, 1998. Prevalence of the polycystic ovary syndrome in unselected black and white women of the Southeastern United States: A prospective study. *J. Clin. Endocrinol. Metab.*, 83: 3078-3082. PMID: 9745406.
- Mckenna, T.J., 1994. Screening for sinister causes of Hirsutism: *N. Eng. J. Med.*, 331 (15): 1015-1016. PMID: 8084341.
- McKnight, E., 1964. The prevalence of hirsutism in young women. *Lancet*, 1 (7330): 410-413. PMID: 14092957.
- Mellissa, H.H. and J.C. Peter, 2003. Evaluation and treatment of women with Hirsutism. *Am. Family Phys.*, 67 (12): 2565-2572. [www.aafp.org/afp/200306/52565.html](http://www.aafp.org/afp/200306/52565.html).
- Sonino, N., G.A. Fava, E. Mani and P. Belluardo *et al.*, 1993. Quality of life of hirsute women. *Post. Grad. Med. J.*, 69: 186-189. PMID: 8497431.
- Zargar, A.H. and A.I. Wani and S.R. Masoodi *et al.*, 2002. Epidemiologic and etiologic aspect of hirsutism in Kashmir women in the Indian subcontinent: *Fertil. Steril.*, 77 (4): 674-678. PMID: 11937114.
- Zhao, J.L., Z.J. Chen and Y.H. Shi *et al.*, 2007. Investigation of body hair assessment of Chinese women in Shandong region and its preliminary application in polycystic ovary syndrome patients: *Zhonghua Fu Chan Ke Za Zhi*, 42 (9): 590-594. PMID: 17983512.