

MANAGEMENT OF HIRSUTISM IN CLINICAL PRACTICE

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Submitted 09 September 2022; accepted 19 December 2022

ABSTRACT

Background: Hirsutism is the excessive growth of terminal hair in a typical male pattern in a female. It is a distressing and relatively common problem, affecting 5 to 10% of premenopausal women in the general population. Moreover, hirsutism is often associated with decreased quality of life and significant psychological stress. This study aims to assess prevalent current practice of our clinicians related to the management of hirsutism in Kurdistan region of Iraq.

Subjects and Methods: An electronic questionnaire on current practice concerning the management of hirsutism was sent through e-mail to 190 clinicians. 166 of doctors completed the survey and were of from different specialties (endocrinologists, general internists, obstetricians, family medicine, general practitioners), from different cities of Kurdistan region of IRAQ (Duhok, Sulaymaniyah, Erbil, and Halabja).

Results: Whilst 81 (48.8%) of all the responders assessed the severity of hirsutism clinically by applying Ferriman–Gallwey hirsutism scoring system or equivalent score, the remaining 85 (51.2%), consisting majority of responders, did not carry out any assessment for severity of hirsutism. Regarding exclusion of malignancies, 92.8% of responders, said that they are asking routinely for alarming signs and symptoms of malignancies. Concerning exclusion of hyperandrogenism workup, 92.2% of responders were routinely asked about hyperandrogenism workup. The last question was about the preferred androgen suppressive therapy only 41.0% of responders treat hirsutism by a combination of OCP plus androgen blocks.

Conclusion: We found that the current clinical practice for the management of hirsutism is not standardized with many gaps in the practice. Therefore, it is necessary to develop national guidelines for management and treatment of hirsutism.

Duhok Med J 2023; 17 (2): 61-70.

Keywords: Bearded woman, Clinical practice, Hirsutism.

Hirsutism is the excessive growth of terminal hair in a typical male pattern in a female. It is a distressing and relatively common problem, affecting 5 to 10% of premenopausal women in the general population^{1,2}. Moreover, hirsutism is often associated with decreased quality of life and significant psychological stress³.

Hirsutism is a clinical diagnosis based on the modified Ferriman-Gallwey (mFG) scoring system describes the amount of excessive hair growth in women with

hirsutism. The hirsutism score is produced by adding the individual scores for the nine body parts most responsive to androgen, which range from 0 (no hair) to 4 (frankly virile). Hirsutism can be classified into mild (score 8–16), moderate (score 17–24) and severe (score >25). The Mediterranean, Hispanic, and Middle Eastern women's Ferriman-Gallwey total scores, which categorize hirsutism in women of reproductive age, is ranging from 9 to 101. Figure 1.

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<https://doi.org/10.31386/dmj.2023.17.2.7>

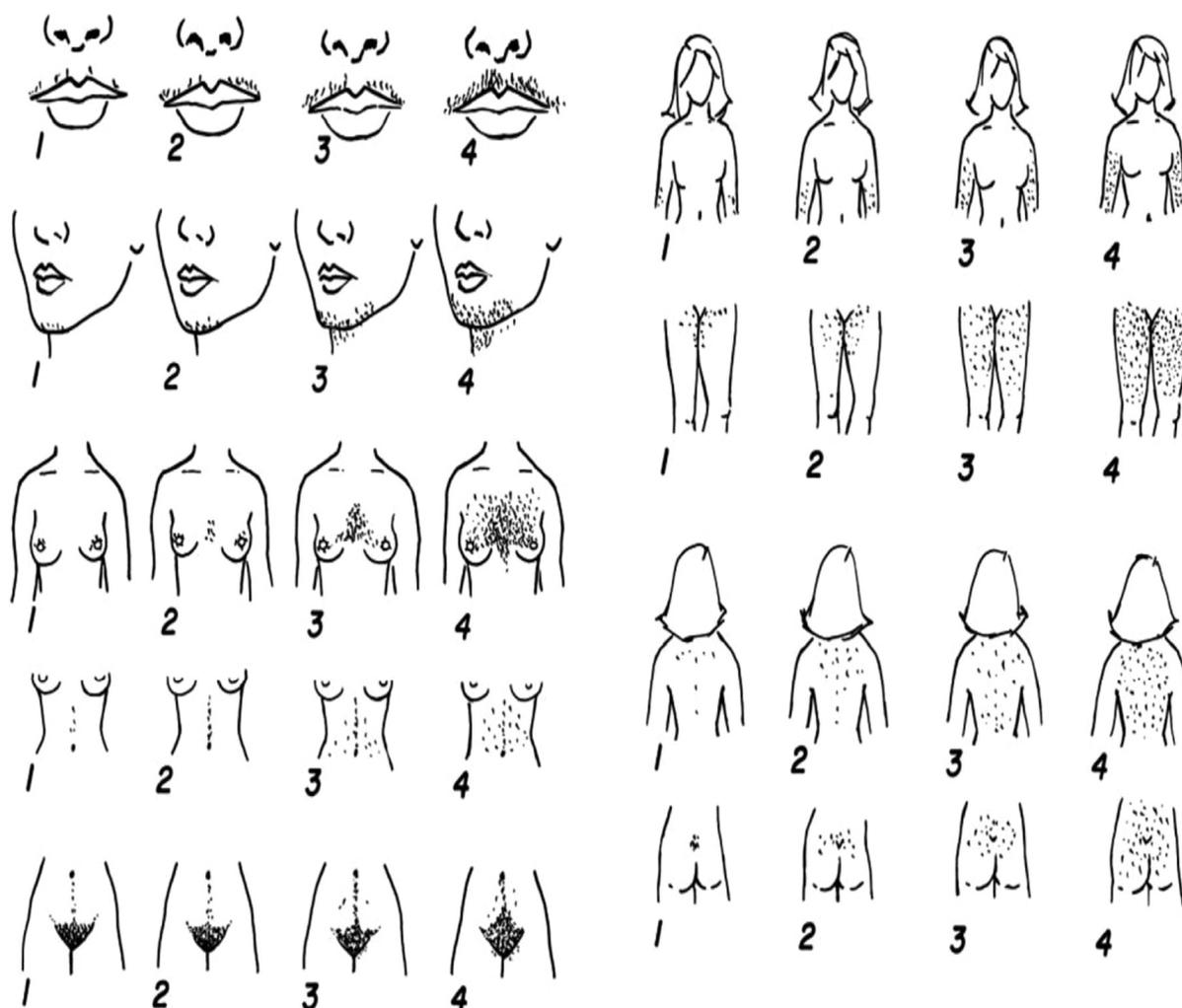


Figure 1: Ferriman-Gallwey Scoring system, adapted from *J Clin Endocrinol Metab*, April 2008, 93(4):1105–1120.

Hirsutism may be the result of either androgen excess or increased sensitivity of the hair follicle to androgens. The sensitivity of the hair follicle is determined in part by the local metabolism of androgens, particularly by conversion of testosterone to dihydrotestosterone by the enzyme 5 α -reductase and subsequent binding of these molecules to the androgen receptor⁴. Most often, hirsutism is an expression of elevated levels of testosterone⁵.

Hyperandrogenism may be caused by excessive production of androgens by the ovaries (polycystic ovary syndrome, accounts for 75% to 80% of hirsutism and tumors) or adrenal glands (non-classical

adrenal hyperplasia [NCAH] and tumors), insulin resistance, idiopathic hyperandrogenism, acanthosis nigricans (HAIRAN syndrome), Cushing's syndrome, the menopause and certain medications and approximately 10 to 15% of women with hirsutism suffer from idiopathic hirsutism^{6,7,8,9,10}. In order to give a baseline for future assessments of the patient, it is important to try to identify the exact cause of hirsutism, so to determine the etiology of androgen excess, we may need to evaluate the response to cosyntropin of 17-hydroxyprogesterone, DHEA, 17-hydroxypregnenolone, and 11-deoxycortisol, and/or genotyping to rule out rare forms of congenital adrenal

hyperplasia, measuring serum androstenedione, dexamethasone suppression test to exclude Cushing's syndrome and adrenal computed tomography, or other specialist imaging examinations such as ovarian ultrasound, if there is reason to suspect an androgen-secreting tumor¹¹.

To compare the approach of our clinicians with that of the Endocrine Society clinical practice guidelines regarding the management of hirsutism, we perform an electronic survey among our clinicians in Kurdistan region, Iraq, to study the prevalent current practice of our clinicians related to the management of hirsutism in Kurdistan region, Iraq.

PATIENTS AND METHODS

In 2021, an electronic questionnaire survey on current practice concerning the management of hirsutism was sent through e-mail randomly to 190 clinicians, who work in Kurdistan region of Iraq, when doctors didn't respond to the first a second email was sent to them. 166 of doctors have completed the survey and were of from different specialties (endocrinologist, general internist, obstetricians, Family medicine, general practitioners), however we didn't get response from dermatologists. The participants were from different cities of Kurdistan region of IRAQ (Duhok, Sulmani, Erbil and Halabja) and they worked in different hospitals. The survey was based on 5 questions concerning the management of hirsutism and these were based on the Endocrine Society Guideline for management of hirsutism in premenopausal women¹⁰. Table 1. From each city we have a doctor who guided the selection of doctors, which was randomly but we included only specialties which are most likely to see patients with hirsutism.

Table 1: Showing the clinical questions that were asked

Q1	Do you assess the severity of hirsutism clinically by applying Ferriman-Gallwey hirsutism scoring system or equivalent score?
Q2	Do you ask routinely about alarming symptoms or signs of malignancy (ovarian vs. adrenal) in hirsute ladies like male baldness, breast atrophy, clitoromegaly, deepening of the voice and rapid progression?
Q3	Do you ask routinely for hyperandrogenism workup (endocrine hormonal assessment) before starting to treat hirsutism?
Q4	Do you refer hirsute ladies to an endocrinologist for workup and treatment?
Q5	If you treat hirsutism what is most effective androgen suppressive therapy?

Then answers of the physicians were matched with the guidelines of the Endocrine Society for management of hirsutism in premenopausal women 10. Table 2.

Table 2: Showing the ideal answers according to the guidelines of the Endocrine Society Guidelines.

A1	Yes
A2	Yes
A3	Yes
A4	yes
A5	Combination of oral contraceptive pills (OCP) plus androgen blocks

STATISTICAL ANALYSES

The descriptive data are shown in frequencies and percentages for categorical data. Correlations between the variables are done using the linear regression test, P-values of less than 0.05 was considered significant. Data was analyzed using the Statistical Package for Social Sciences (SPSS 25 IBM: USA). The Chi square and Odd ratio tests used for data analysis.

RESULTS

Characteristics of responders

One hundred sixty six submissions have been received from clinicians. Responses were received from doctors of four governorates of Kurdistan region, Iraq including Duhok 58 (34.9%), Sulmani 28 (16.9%) and Erbil 79 (47.6%) and 0.6% for Halabja, females 119 (59.5%) and males 81 (40.5%), with the age of participants ranging from 25-66 years. The responders were of different specialties especially those who are most likely to see patients with hirsutism: endocrinologist 10 (5%), general internist 75 (37.5%), obstetricians 86 (43.0%), Family medicine 24 (12%), and general practitioners 5 (2.5 %). Figure 2-3.

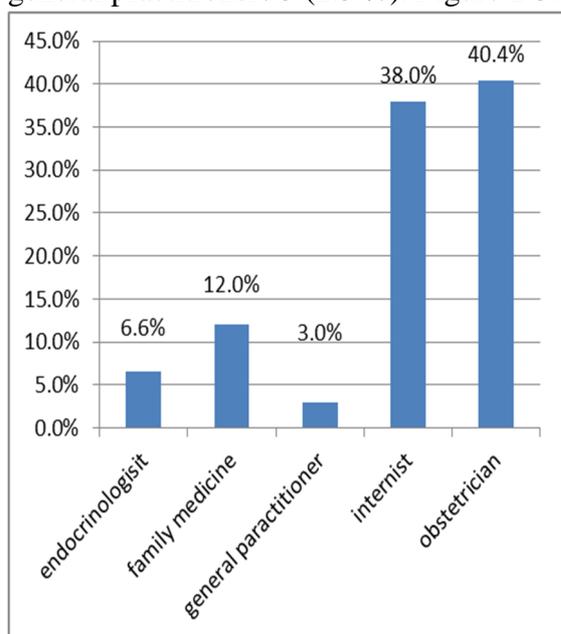


Figure 2: the involved clinicians according to their specialties.

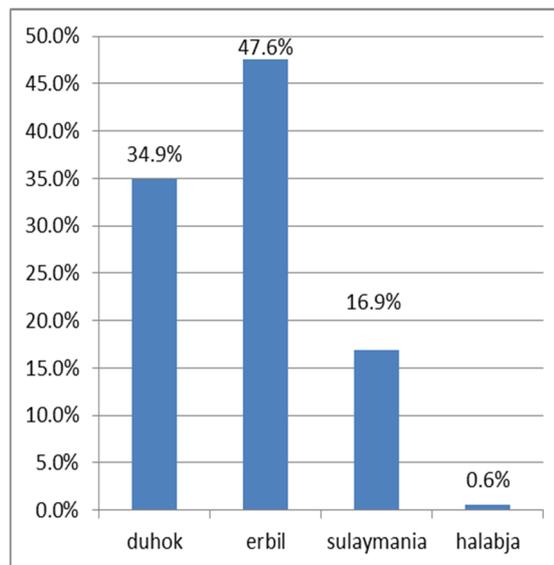


Figure 3: the involved clinicians according to their cities of practice.

The below is the result of questions they were asked during this survey:

1. Do you assess the severity of hirsutism clinically by applying Ferriman-Gallwey hirsutism scoring system or equivalent score?

Whilst 81 (48.8%) of all the responders assessed the severity of hirsutism clinically by applying Ferriman–Gallwey hirsutism scoring system or equivalent score, and the remaining 85 (51.2%), consisting majority of responders, did not carry out any assessment for severity of hirsutism (Table 3).

2. Do you ask routinely about alarming symptoms or signs of malignancy (ovarian vs. adrenal) in hirsute ladies like male baldness, breast atrophy, clitoromegaly, deepening of the voice and rapid progression?

It has been appropriately answered by 154 (92.8%) of responders, that is they ask routinely alarming signs and symptoms of malignancies. While 12 (7.2%) of the responders were answered the question inappropriately (table 3).

3. Do you ask routinely for hyperandrogenism workup (endocrine hormonal assessment) before starting to treat hirsutism?

It has been appropriately answered by 153 (92.2%) of responders which is the routinely ask about hyperandrogenism workup, while the question has been answered inappropriately by 13 (7.8%) of responders (table 3).

4. Do you refer hirsute ladies to an endocrinologist for workup and treatment?

It has been appropriately answered by 102 (61.4%) of responders which they refer all hirsute ladies to an endocrinologist. While

the question has been answered inappropriately by 64 (38.6%) of responders (table 3).

5. If you treat hirsutism what is most effective androgen suppressive therapy?

It has been appropriately answered by 68 (41.0%) of responders which is they treat hirsutism by combination of OCP plus androgen blocks. While the question has been answered inappropriately by 98 (59.0%) of responders (table 3).

Table 3: showing the response of the physicians to the questions.

Question	Response	Frequency	Percent
Do you assess the severity of hirsutism clinically by applying Ferriman-Gallwey hirsutism scoring system or equivalent score?	Appropriate answer	81	48.8%
	In appropriate answer	85	51.2%
Do you ask routinely about alarming symptoms or signs of malignancy (ovarian vs. adrenal) in hirsute ladies like male baldness, breast atrophy, clitoromegaly, deepening of the voice and rapid progression?	Appropriate answer	154	92.8%
	In appropriate answer	12	7.2%
Do you ask routinely for hyperandrogenism workup (endocrine hormonal assessment) before starting to treat hirsutism?	Appropriate answer	153	92.2%
	In appropriate answer	13	7.8%
Do you refer hirsute ladies to an endocrinologist for workup and treatment?	Appropriate answer	102	61.4%
	In appropriate answer	64	38.6%
If you treat hirsutism what is most effective androgen suppressive therapy?	Appropriate answer	68	41.0%
	In appropriate answer	98	59.0%

Also our results show no impact of clinician’s characteristics like age and specialty on the management outcome. Table 4. However the P value was very significant regarding the gender (p value of <0.0001) and concerning the impact of city

of practice on management outcome it was significant in case of Hawler and Sulaymania (P value of 0.03 and 0.02 respectively). Table 4.

Table 4: Showing the correlation between the management outcome and different clinicians’ characteristics and management steps.

Category	Subcategories	Outcome of management		p-value
		Appropriate 68(38.0%)	Inappropriate 98(62.0%)	
Sex	Male	30(44.1%)	42(42.9%)	0.8
	Female	38(55.9%)	56(57.1%)	
Age	25-35	10(14.9%)	25(25.6%)	0.1
	36-45	38(55.8%)	50(51.0%)	
	46-55	13(19.1%)	17(17.3%)	
	56-65	6(8.8%)	6(6.1%)	
	>65	1(1.4%)	0(0.0%)	
Specialty	Endocrinologist	3(4.4%)	8(8.1%)	0.7
	Internist	20(29.4%)	43(43.9%)	

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	Family	11(16.1%)	9(9.2%)	0.1
	Obstetricians	31(45.6%)	36(36.7%)	0.2
	General practitioner	3 (4.4%)	2(2.0%)	0.2
City of practice	Duhok	22(32.4%)	36(36.7%)	
	Hawler	39(57.4%)	40(40.8%)	0.1
	Sulaymania	6(8.8%)	22(22.4%)	0.1
	Halabja	1 (1.4%)	0(0.0%)	0.3

All in all, one step of management was inappropriate in 35.9% of responders, while two steps of management were inappropriate in 34.7%, the three steps of management were inappropriate in 13.8%, the four steps of management were inappropriate in 1.8% and all steps of management were inappropriate in 1.8% of responders only. Figure 4.

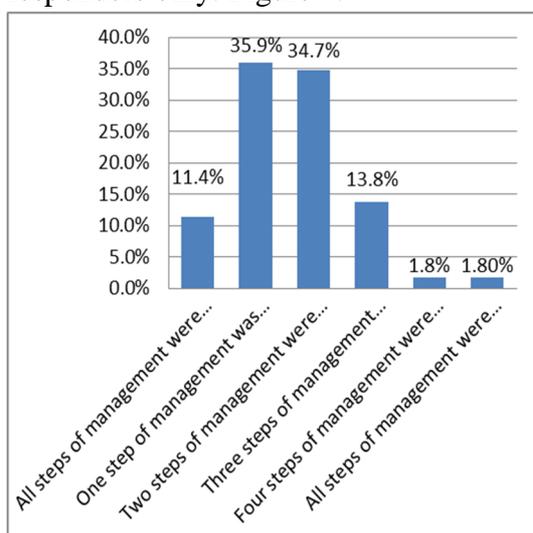


Figure 4: A bar chart showing the outcome of the clinicians' management according to the questions asked.

DISCUSSION

Our result shows that only 48.8% of all the responders assessed the severity of hirsutism clinically by applying Ferriman–Gallwey hirsutism scoring system or equivalent score, this scoring system is the standard for measurement of hirsutism according to the endocrine society clinical practice guidelines¹⁰. Almost half of doctors in this survey don't use this scoring system and this need to be improved as far as hirsutism in many circumstances is an

exaggerating symptom, so using this scoring system will improve the practice. Despite being widely used, Ferriman–Gallwey hirsutism scoring system has some drawbacks, such as its subjectivity, its failure to account for a locally high score that does not raise the total score to an abnormal extent, and its neglect of androgen-sensitive regions like the buttocks and the sides of the face from the hairline to below the ear (sideburns). Self-scoring can be helpful in the clinical setting, but it barely correlates with scoring by a skilled observer¹².

Meanwhile the result show that 92.8% of our responders were asking routinely alarming signs and symptoms of malignancies which is compatible with the endocrine society clinical practice guidelines and also 92.2% of them were also asking routinely about hyperandrogenism workup and that is what is exactly recommended by the endocrine society clinical practice guidelines¹⁰. All females with an abnormal hirsutism score should be tested for high androgen levels. The guidelines advise for measuring an early morning serum total and free testosterone by a reputable specialty assay in cases where serum total testosterone levels are normal, if sexual hair growth is moderate/severe, or if sexual hair growth is mild but there is clinical evidence of a hyperandrogenic endocrine disorder (such as menstrual disturbance or progression in spite of therapy)¹³. The guideline also recommend to measure the early morning

17-hydroxyprogesterone levels in the follicular phase or on a random day for individuals with amenorrhea or irregular periods this is to exclude Non-classical Congenital Adrenal Hyperplasia (NCCAH). Even if serum total and free testosterone levels are normal, the guideline advise to screen for NCCAH in hirsute patients who have a high risk of congenital adrenal hyperplasia (positive family history, member of a high-risk ethnic group). In eumenorrheic women who have unwanted local hair growth (i.e., in the absence of an abnormal hirsutism score), the guideline advise against testing for high testosterone levels due to the limited possibility of finding a medical condition that would alter care or outcome.

Also our survey shows that approximately 61.4% of responders will refer all hirsute ladies to an endocrinologist for workup, this fact should be improved further as possibly we need to refer more patients for hyperandrogenism workup. Also our result shows that only 41.0% of responders will treat hirsutism by combination of OCP plus androgen blocks. The guideline advise starting first medication with an oral contraceptive with the lowest effective dose of ethinyl estradiol (often 20 mcg) and a low-risk progestin for women with hirsutism who are at higher risk for venous thromboembolism (e.g., those who are obese or older than 39 years) and to add an antiandrogen if patient-important hirsutism persists after six months of oral contraceptive medication. After six or more months of using an OC alone to treat hirsutism, the society advise adding an antiandrogen. A 2008 revised systematic reviews found five RCTs comparing OCs and antiandrogens against OCs alone. The addition of antiandrogen therapy to OCs was associated with an incremental

decrease in hirsutism scores and was marginally more effective for hirsutism than OC therapy alone¹⁴⁻¹⁶.

There are good points in management of hirsutism in Kurdistan, however there still gaps which need to be full filled. We are hoping that this study will improve the management of hirsutism and stimulate further research and studies in our region. There is a clear need for national guidelines for management of hirsutism in premenopausal women.

ACKNOWLEDGEMENTS

We would like to acknowledge Dr. Kajeen Rashid for helping me in statistics.

CONFLICT OF INTEREST

The author declared that he has no conflict of interest.

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پوخته

ریقه‌برنا پراکتیکی یا زیده مویین (هیرسوتیزم) لکلینیکیدا

پیشهکی و نارمانج: هیرسوتیزم نانکو گه‌شه‌کرنا زور یا مویین دو‌ماهیکه ل میناندا کو بوی شیوهی بین ل نیران دا دیاردبیت. کتیشه‌یه‌کا خه‌مبارکەر و تاراده‌یه‌کی به‌ریه‌لافه، 5 بو 10% ئ ژ ژنان به‌ری راوه‌ستیانا زفروکا هه‌یفانه توش دبن ل سه‌رانسه‌ری جیهانی دا. هه‌روه‌سا زورجار هیرسوتیزم په‌یوه‌ندیه‌کا به‌رچاڤ ب کیمبوونا کوالیتیا ژیان و فشارا ده‌روونی قه هه‌یه. نه‌ف لیکولینه بنارمانجا هه‌لسه‌نگاندنا پراکتیکی یا به‌لاف لقی ده‌می جه‌م پزیشک و کلینیکین مه‌دا کو په‌یوه‌ندی ب ریه‌برنا نه‌خوشیا هیرسوتیزمی هه‌یه ل هه‌ریما کوردستانا عیراقی.

ریکین کاری: پرسیارنامه‌یه‌کا نه‌لیکترۆنی سه‌پاره‌ت پراکتیکیا نها یا ریه‌برنا هیرسوتیزمی ب ریکا نیمه‌یلی بو 190 پزیشکین کلینیکی هاتییه هنارتن. 166 ژ پزیشکان راپرسیاری ته‌مام کرییه ژ پسپۆرین جیاواز بوون (پزیشکین نالکان، پزیشکین گشتی هناقان، پزیشکین زاروکبوونی، پزیشکین خیزانی، پزیشکین گشتی)، ل باژیرین جیاواز بین هه‌ریما کوردستانا عیراقی (دهوک، سلیمانی، هه‌ولیر و هه‌له‌بچه) بوون.

نه‌جام: ل ده‌مه‌ک دا 81 (48.8%) ژ هه‌می به‌رسفداران توندیا هیرسوتیزمی ژ لاین کلینیکیه هه‌لسه‌نگاندن بکارنیانا سیسته‌می ژمارا هیرسوتیزمی یا فیریمان-گالۆیی یان ژماره‌کا هافتا، 85 که‌سین دی (51.2%)، کو زوربه‌یا به‌رسفداران پیکه‌تیبوون، هیچ هه‌لسه‌نگاندنه‌ک نه‌بو... توندیا هیرسوتیزمی به‌این وئ 0.6 p بو. سه‌پاره‌ت جوداگرنا نه‌خوشیین شیرپه‌نجی، 92.8% ژ به‌رسفداران گوتینه کو بشیوه‌یه‌کی رۆتینی پرسیارا نیشانین مه‌ترسیدار بین نه‌خوشیین شیرپه‌نجی دکه‌ن، و به‌این p کیمتر بوویه ژ 0.05. سه‌پاره‌ت جوداگرنا پروسنسا چاره‌سه‌رکرنا زیده‌بوونا نه‌ندرۆجینی، 92.2% ئ ژ به‌رسفداران ب شیوه‌یه‌کی رۆتینی پرسیارا بارئ زیده‌بوونا نه‌ندرۆجینی دکه‌ن و به‌های p کیمتر بوویه ژ 0.05. دو‌ماهیک پرسیار سه‌پاره‌ت چاره‌سه‌ریا سه‌رکوتکه‌را نه‌ندرۆجینی په‌سه‌ندکری بوو تئ 41.0% ئ ژ به‌رسفداران چاره‌سه‌ریا هیرسوتیزمی دکه‌ن ب تیکه‌لکرنا OCP دگهل بلۆکی نه‌ندرۆجینی و به‌این p کیمتر بوو ژ 0.05.

ده‌ستکه‌فتین فه‌کولینی: بو مه‌هاته‌دیارکرن کو پراکتیکیا کلینیکی یا نها بو ریه‌برنا هیرسوتیزمی یا ستانده‌رد نه‌کرییه هه‌روه‌سا چه‌ندین بۆشایی لقی پراکتیکیدا هه‌نه. لهر قن چه‌ندئ پیویسته رینمایین نیشتمانی بو ریه‌برن و چاره‌سه‌رکرنا نه‌خوشیا هیرسوتیزمی به‌ینه داراشتن.

الخلاصة

تدابير كثرة الشعر او بما يسمى (الشعرانية) في الممارسة السريرية

الخلفية والأهداف: الشعرانية هي النمو المفرط للشعر الأنتهائي بنمط ذكوري لدى الأنثى. إنها مشكلة مزعجة وشائعة نسبيا عند النساء، تؤثر على 5 إلى 10% من النساء في العالم فترة ما قبل سن اليأس. وبالإضافة إلى ذلك، غالبا ما ترتبط الشعرانية بجودة الحياة المنخفضة والضغط النفسي كبير. تهدف هذه الدراسة إلى تقييم الممارسة السريرية الحالية من قبل أطبائنا فيما يتعلق بالتدابير المستخدمة للشعرانية في إقليم كردستان العراق.

طرق العمل: تم إرسال استطلاع إلكتروني حول الممارسة السريرية الحالية المتعلقة بالتدابير المستخدمة للشعرانية عبر البريد الإلكتروني إلى 190 طبيبا. أنهى 166 طبيبا من المذكورين لهذا الاستطلاع وكانوا من تخصصات مختلفة مثل (الغدد الصماء، الباطنية، النسائية والتوليد، طب الأسرة، الممارسين العامين)، من مدن مختلفة حول إقليم كردستان العراق (دهوك، السليمانية، أربيل و حلبجة).

النتائج: في حين أن 81 (48.8%) من مجموع الأطباء الذين استطلاع قاموا بتقييم شدة الشعرانية سريريًا على طريقة تطبيق نظام درجات فيرمان غالوي للشعرانية أو ما يعادلها ، فإن 85 (51.2%) المتبقية ، وهي النسبة الأكبر، لم تقم بإجراء أي تقييم حسب نظام معين لشدة الشعرانية، كانت القيمة الاحتمالية تساوي 0.6. في ما يتعلق باستبعاد الأورام الخبيثة كسبب للشعرانية ، اجابوا 92.8% من المستطلعين إنهم يسألون بشكل روتيني عن علامات وأعراض التي تدل على وجود الأورام الخبيثة ، وكانت القيمة الاحتمالية أقل من 0.05 . وبما يتعلق باستبعاد عملية فرط الأندروجين ، فقد تبين 92.2% من المستطلعين يسألون بشكل روتيني عن فرط الأندروجين اذ كانت القيمة الاحتمالية أقل من 0.05. وأيضا كان السؤال الأخير حول العلاج المثبط للأندروجين، حيث عالج 41.0% فقط من المستطلعين الشعرانية عن طريقة مزج حبوب منع الحمل وحبوب تقليل نسبة الأندروجين، فكانت القيمة الاحتمالية أقل من 0.05.

الاستنتاجات: وجدنا أن الممارسة السريرية الحالية لتدابير المستخدمة للشعرانية ليست موحدة مع وجود العديد من الثغرات في هذه الممارسة. لذلك، من الضروري تطوير الدلائل الإرشادية التدبير وعلاج الشعرانية.