Evaluation of Dermatology life quality index- DLQI and Coping Strategy According to Gender in rosacea patients

Sofo Azrumelashvili MD. PhD student

Tina Kituashvili Associate Professor

Ivane Javakhishvili Tbilisi State University

Abstract

Rosacea can be classified as a socially significant social disease. It reduces the quality of life and causes depressive disorders. Nosogenic characteristics are determined by many psychological, personal, social and biological factors - including objective characteristics of the disease, such as the severity of symptoms and sensations caused by the disease, which cause maladaptation of these patients and reduce the response to standard therapy.

The aim of our study is to evaluate the dermatological quality of life index - DLQI and coping strategy by gender in rosacea patients

Among the patients examined by us - 18.12% were men, and 81.88% were women ($p<0.0001$);

The average age of onset of the disease in women and men does not differ significantly ($p=0.2959$), while the phymatous subtype was detected only in men.

Papulopustular subtype predominated in patients of both sexes. However, the frequency of this subtype was higher in women ($p=0.0705$), and of the eye in men ($p=0.6286$). The phymatous subtype was observed only in men, the frequency of the erythematogenic subtype did not differ significantly by gender.

According to our data, the HRQoL score is higher in women than in men ($p=0.0067$).

Activities of daily living, problem focus, expression of emotions, and use of emotional social support were significantly higher in women than in men, while positive reinterpretation and growth were lower.

In women, symptoms and feelings are reliably negatively correlated with mental detachment and acceptance; This shows a reliable negative correlation with treatment-related problems with mental detachment and acceptance; There is also a negative correlation between acceptance and work and/or school and personal relationships.

In male patients, positive reinterpretation and growth were associated with treatment, while use of instrumental social support was significantly negatively associated with work and/or school. Activities of daily living, focus and expression of emotion, and use of emotional social support were significantly higher in women than in men, while positive Reinterpretation and growth were low.

Keywords: Rosacea, DLQI, Coping strategy

დერმატოლოგიური ცხოვრების ხარისხის ინდექსის შეფასება - DLQI და დაძლევის სტრატეგია სქესის მიხედვით როზაცეას პაციენტებში

სოფო აზრუმელაშვილი MD. დოქტორანტი

თინა ქიტუაშვილი ასოცირებული პროფესორი

ივანე ჯავახიშვილის სახელობის თბილისის სახელმწიფო უნივერსიტეტი

აბსტრაქტი

როზაცეა შეიძლება კლასიფიცირდეს, როგორც სოციალურად მნიშვნელოვანი სოციალური დაავადება. ის ამცირებს ცხოვრების ხარისხს და იწვევს დეპრესიულ აშლილობებს. ნოზოგენურ მახასიათებლებს განსაზღვრავს მრავალი ფსიქოლოგიური, პიროვნული, სოციალური და ბიოლოგიური ფაქტორი - მათ შორის დაავადების ობიექტური მახასიათებლები, როგორიცაა დაავადებით გამოწვეული სიმპტომებისა და შეგრძნებების სიმძიმე, რაც იწვევს ამ პაციენტების არაადაპტაციას და ამცირებს პასუხს სტანდარტულ თერაპიაზე.

ჩვენი კვლევის მიზანია დერმატოლოგიური ცხოვრების ხარისხის ინდექსის შეფასება - DLQI და დაძლევის სტრატეგია სქესის მიხედვით როზაცეას პაციენტებში

ჩვენ მიერ გამოკვლეულ პაციენტებს შორის - 18,12% იყო მამაკაცი, ხოლო 81,88% ქალი (p<0,0001);

დაავადების გამოვლინების საშუალო ასაკი ქალებსა და მამაკაცებში მნიშვნელოვნად არ განსხვავდება (p=0,2959), ხოლო ფიმატოზური ქვეტიპი გამოვლინდა მხოლოდ მამაკაცებში.

პაპულოპუსტულური ქვეტიპი ჭარბობდა ორივე სქესის პაციენტებში. თუმცა, ამ ქვეტიპის სიხშირე მაღალი იყო ქალებში (p=0.0705), ხოლო თვალის - მამაკაცებში (p=0.6286). ფიმატოზური ქვეტიპი დაფიქსირდა მხოლოდ მამაკაცებში, ერითემატოგენური ქვეტიპის სიხშირე მნიშვნელოვნად არ განსხვავდებოდა სქესის მიხედვით.

ჩვენი მონაცემებით, HRQoL ქულა ქალებში უფრო მაღალია, ვიდრე მამაკაცებში (p=0.0067). ყოველდღიური ცხოვრების აქტივობები, ფოკუსირება პრობლემაზე, ემოციების გამოხატვა და ემოციური სოციალური მხარდაჭერის გამოყენება მნიშვნელოვნად მაღალი იყო ქალებში, ვიდრე მამაკაცებში, ხოლო პოზიტიური რეინტერპრეტაცია და ზრდა იყო უფრო დაბალი.

ქალებში სიმპტომები და გრძნობები სარწმუნო უარყოფით კორელაციაშია ფსიქიკურ განცალკევებასთან და მიმდებლობასთან; ეს აჩვენებს საიმედო ნეგატიურ კორელაციას მკურნალობასთან დაკავშირებულ პრობლემებთან ფსიქიკური განცალკევებასთან და მიდებასთან; ასევე არსებობს უარყოფითი კორელაცია მიდებასა და სამუშაოს ან/და სასკოლო და პირად ურთიერთობებს შორის. მამრობითი სქესის პაციენტებში დადებითი ხელახალი ინტერპრეტაცია და ზრდა იყო დაკავშირებული მკურნალობასთან, ხოლო ინსტრუმენტული სოციალური მხარდაჭერის გამოყენება მნიშვნელოვნად უარყოფითად იყო დაკავშირებული სამუშაოსთან და/ან

სკოლასთან.ყოველდღიური ცხოვრების აქტივობები, ფოკუსირება და ემოციების გამოხატვა და ემოციური სოციალური მხარდაჭერის გამოყენება მნიშვნელოვნად მაღალი იყო ქალებში, ვიდრე მამაკაცებში, ხოლო პოზიტიური რეინტერპრეტაცია და ზრდა დაბალი იყო.

დასკვნა: არსებობს სარწმუნო განსხვავება როზაცეას მქონე მამაკაცებსა და ქალებს შორის როგორც ცხოვრების ხარისხში, ისე პრობლემის აღქმასა და დაძლევის სტრაეგიის ცალკეული მახასიათებლების მიხედვით

საკვანძო სიტყვები: როზაცეა, დაძლევის სტრატეგია, ცხოვრების ხარისხი

Introduction:

Rosacea is a chronic skin disorder affecting the central parts of the face, characterized by frequent flushing, persistent erythema, and telangiectasia, and interspersed with episodes of inflammation during which swelling, papules, and pustules, and rarely nodules are evident [1]. Rosacea most frequently occurs in the light-skinned Caucasian population [2].

Rosacea is diagnosed frequently in women [3,4]. However, according to some research, there were no statistically significant differences in either gender [5]. Rosacea was diagnosed in some 80% of cases after age 30 [6].

It can occur at any age but is most diagnosed in women aged between 30 and 50. The National Rosacea Society organizes rosacea into 4 primary subtypes: Erythematotelangiectatic, Papulopustular, Phymatous, and ocular. Erythematotelangiectatic rosacea is characterized by transient facial erythema (flushing) and a background of persistent centrofacial erythema, with telangiectasia also present in most patients. The clinical definition can be challenging due to an overlap with the cutaneous findings of chronic actinic damage in fair-skinned individuals (dermatoheliosis). Papulopustular rosacea appears with variable intensity of central facial erythema and a variable number of small erythematous papules and pustules [7]. Phymatous (Gr. *phyma*, growth) rosacea - Rhinophyma is a phenotypic subtype of rosacea affecting the nose. It is characterized by Phymatous changes, skin thickening/fibrosis, glandular hyperplasia, and

chronic inflammation [8]. Symptoms of ocular rosacea consist of nonspecific complaints of dryness, gritty sensations, tearing, and itching, as well as frequent styles. More active ocular rosacea presents as blepharitis, often with conjunctival injection, lid margin telangiectasia, chalazion, or hordeolum formation [9]. Rosacea has a substantial impact on a patient's quality of life. Its varying phenotypic features and facial localization can adversely affect mental health and socialization [10]. In some studies, the average rate of DLQI score was 17.3 [11].

Materials and methods:

This study was performed in the Dermatology clinic (National Centre of Dermatology and Venereology) from November 2016 to December 2017. A total of $1^{1}38$ patients, aged 22 to 80, took part in this study with the first-time confirmed diagnosis of rosacea, of which 25 (18%) were male and 113 (82%) females. Clinical subtypes in 138 patients: Erythematotelangiectatic - 28, Papulopustular - 93, Phymatous - 4, and Ocular - 13.

The study received ethical approval from the local ethical committee and all data was managed in accordance with the local data privacy regulations. All patients provided informed consent before participating in the study.

Inclusion criteria: 1. A clinical diagnosis of rosacea was confirmed by a dermatologist. 2. Formal informed consent before involvement in research. 3. Aged 18 years old or over.

Exclusion criteria: 1. Patients diagnosed with a psychiatric disease or any serious physical illness that can influence the study result and/or patient QoL. 2. Age less than 18 years.

Patients' diagnosis was performed according to a standard classification system for rosacea developed by the National Rosacea Society Expert Committee on the Classification and Staging of Rosacea. According to this scorecard observation of clinicians based on primary signs and symptoms, which were graded as absent, mild, moderate, or severe (0-3), and most secondary features might be graded simply as absent or present [12].

During an interview, all patients provided their demographic information and completed the Dermatology Life Quality Index (DLQI) questionnaire. Skin-related quality of life was measured using a validated Georgian version of the Dermatology Life Quality Index (DLQI) questionnaire, which consisted of 10 questions, that could be grouped using the following six headings: symptoms and feelings (1,2), daily activities (3,4), leisure (5,6), work and/or school (7),

personal relationships (8,9), and treatment (10). The scoring for each question was rated on a 4-point scale (0 = not at all to 3 = very much) [13]. The total score is from 0 (without any effect on QoL) to 30 (worst effect on QoL). And the closer the indicator is to this mark, the more negatively the patient's quality of life is affected by the disease. [14].

Sixty statements presenting 15 different stress coping strategies, regarded as chosen ways to overcome stress in different situations; the person marks the best answer which describes his/her behavior in a stressful situation (from 1 point which denotes "I never behave in such a manner" to 4 "I almost always behave in such a manner"); the score is added up for each strategy (the total ranges from 4 to 16 points); For the purposes of our study, stress coping strategies were divided into adaptive ones (positive reframing, active coping, planning, sense of humor, emotional social support, instrumental social support, religious approach, competitive actions avoidance, acceptance) and non-adaptive (activity restraining, concentration on emotions and emotional expression, denial strategy, distraction, alcohol/drug use, discontinuance strategy); the higher the score in a given strategy means that the patient employs that method more often in a stressful situation;

Purpose: Evaluation of Dermatology life quality index- DLQI and Coping Strategy According to Gender in rosacea patients

Statistical analysis

For the quantitative data, the average rate and standard deviation were detected, and the equality of variances was tested by Levene's Test of Equality, to evaluate the differences between the groups' independent samples t-test were examined. Dichotomous data were presented as numbers and percentages. The Fisher exact test was used to analyze categorical variables. Correlation analysis was performed by Pearson's correlation analysis. Statistical significance was set at $p<0.05$; the analysis was performed using the statistical software package SPSS 22.

Results

The average age of Rosacea manifestation in females was - 45.8 (range 23-64), males - 48.56+15.62(range 22-80); t=1.06, p=0.2959.

Patients' distribution according to the subtypes showed that the Papulopustular subtype had the highest frequency - 93(67%), Erythematotelangiectatic 28(20%), Ocular - 13(10%), and the lowest

was Phymatous - 4(3%). The patient's global assessments were mild -11%, moderate – 56%, and severe – 33%.

The frequency of primary features of rosacea in female patients was: Flushing (transient erythema): mild - 5(4.4%), moderate - 16(14.2%), severe - 2(1.8%); Nontransient erythema: mild - 39(34.55%), moderate - 41(36.3%), severe - 7(6.2%); Papules and pustules: mild - 39(34.5%), moderate - 33(29.2%), severe - 16(14.2%); Telangiectasia: mild - 35(31.0%), moderate - 55(48.7%), severe - 19(16.8%);

The frequency of secondary features of rosacea in female patients was: Burning or stinging: mild -53(46.9%), moderate - 34(30.1%), severe -19(16.8%); Plaques: mild - 50(44.2%), moderate - 12(10.6%), Dry appearance: mild - 54(47.8%), moderate - 30(26.5%), severe - 17(15.0%); Edema: mild - 41(36.3%), moderate - 25(22.1%), severe - 1(0.9%); Ocular manifestations: mild - 7(6.2%), moderate - 3(2.7%); Granulomatous: Changes -0; Erythematotelangiectatic: mild - 2(1.8%), moderate - 17(15.0%), severe - 4(3.5%); Papulopustular: mild - 12(10.6%), moderate - 39(34.5%), severe - 29(25.7%); Ocular: mild – 5(4.4%), moderate - 5(4.4%).

Patient global assessment in female patients was mild - 11(9.7%), moderate - 64(56.6%), severe - 38(33.6%).

The frequency of primary features of rosacea in male patients was: Flushing (transient erythema): mild – 4(16.0%), moderate - 2(8.0%); Nontransient erythema: mild - 8(32.0%); moderate - 9(36.0%), severe - 1(4.0%); Papules and pustules: mild -10(40.0%), moderate - 2(8.0%), severe - 4(16.0%); Telangiectasia: mild – 6(24.0%), moderate – 8(32.0%), severe – 8(32.0%);

The frequency of secondary features of rosacea in male patients was: Burning or stinging: mild - 16(64.0%), moderate - 4(16.0%); Plaques: mild - 12(48.0%), moderate - 2(8.0%); severe - 3(12.0%); Dry appearance: mild - 10(40.0%), moderate - 5(20.0%), severe - 2(8.0%); Edema: mild - 6(24.0%), moderate - 8(32.0%); Ocular manifestations: mild- 2(8.0%), moderate - 1(4.0%); Granulomatous Changes: mild - 2(8.0%), moderate - 2(8.0%); Erythematotelangiectatic: mild - 2(8.0%), moderate - 31(2.0%). Papulopustular: mild -5(20.0%), moderate - 6(24.0%), severe - 2(8.0%); Phymatous: mild - 1(4.0%), moderate - 3(12.0%); Ocular: mild - 1(4.0%), moderate - 2(8.0%),

Patient's global assessment in male patients was mild - 4(16.0%), moderate - 13(52.0%), severe - 8(32.0%;)

The mean value assessment of the patient's general condition does not differ reliably between the groups: female - 2.24+0.62, male - 2.16+0.69, t=0.53, p=0.6006.

Our study shows that rosacea frequency and subtypes differ according to gender. In male patients, rosacea subtypes are as follows: Erythematotelangiectatic- 5, Papulopustular – 13, Phymatous- 4, and Ocular- 3. There were 23 Erythematoteleangiectatic cases in female patients, 80 papulopustular cases, and 3 ocular cases.

Fig 1. Patients' distribution according to gender and disease subtypes
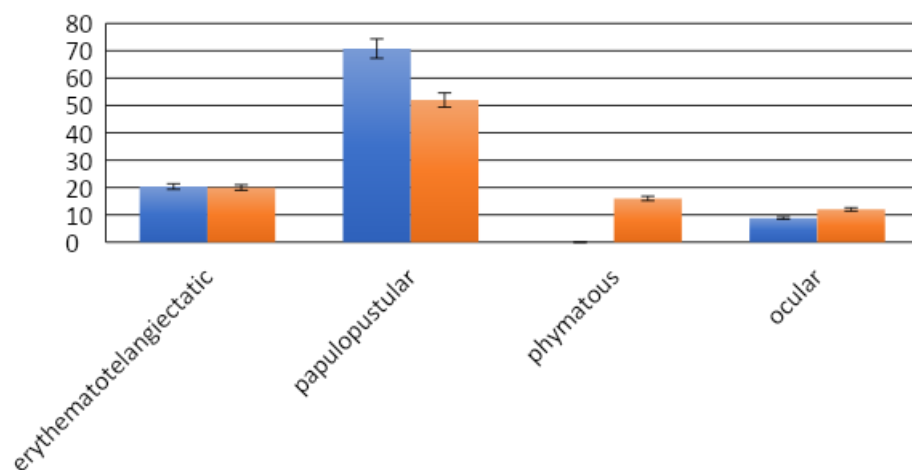
 As presented in Figure 1, the Papulopustular subtype was dominant in both genders. At the same time-frequency of Papulopustulosar subtype was non-significantly high in female patients (p=0.0705), and male patients with **Ocular subtype – (**p=0.6286). Phymatous subtype was only in male patients. The frequency of Erythematotelengiectatic subtype has not differed according to gender.

A comparative analysis according to the age and subtypes of rosacea in male and female patients is given in Table 1.

Table 1

Patient distribution according to gender, age, and rosacea subtypes.

	Male				Female			
	N	M±SD	Min.	Max.	N	M±SD	Min.	Max.
Erythematotelangiectatic	5	50.00±22.25	22.00	79.00	23	44.22±10.26	25.00	62.00
Papulopustular	13	43.54±11.35	29.00	62.00	80	42.86±10.69	25.00	79.00
Phymatous	4	58.00±20.15	32.00	80.00	0	-	-	
Ocular	3	55.33±11.85	48.00	69.00	10	64.10±13.30	38.00	80.00
p	0.3486				<0.00001			

There is no significant difference in male age, non-significantly lower Papulopustular subtype, and higher in the case of Phymatous subtype. In female patients, Ocular subtype is significantly higher and Papulopustular is lower.

Assessment of DLQI according to gender is shown in Table 2.

Table 2. Assessment of DLQI according to gender.

Questions	Value -Rate		
	Female	Male	P
1. Over the last week, how itchy, sore, painful or stinging has your skin been?	1.87±1.00	1.32±0.95	0.0135
2. Over the last week, how embarrassed or self-conscious have you been because of your skin?	2.05±0.88	1.64±0.99	0.0408
3. Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?	1.72±0.87	1.32±0.80	0.0338
4. Over the last week, how much has your skin influenced the clothes you wear?	1.59±0.86	0.96±0.89	0.0026

5. Over the last week, how much has your skin affected any social or leisure activities?	1.50±0.87	1.32±1.07	0.4488
6. Over the last week, how much has your skin made it difficult for you to do any sport?	1.09±0.90	0.92±0.91	0.4067
7. Over the last week, has your skin prevented you from working or studying?	1.54±1.17	1.12±1.13	0.1032
If "No", over the last week how much has your skin been a problem at work or studying?	0.07±0.37	0.00±0.00	0.0450
8. Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?	1.38±1.00	1.12±1.05	0.2669
9. Over the last week, how much has your skin caused any sexual difficulties?	1.16±0.86	0.76±0.93	0.0404
10. Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?	1.70±1.04	1.12±0.88	0.0110

Female patients rated the following factors significantly higher: Itching of the skin, burning, or stinging, difficulties with a sexual partner, and problems in working and studying processes. Skin influenced the clothes patients wore. Patients felt embarrassed or strained because of their skin while going shopping or looking after their homes or garden; they were more disturbed by the treatment.

Men and women had equal concerns and no significant difference while assessing the quality of life in terms of sports activities, working, or studying process, problems with their partner or any of their close friends or relatives.

There were differences among the groups according to the clinical manifestations of rosacea.

Assessment of DLQI according to the rosacea subtypes and gender is shown in Table 3.

Table 3. Assessment of DLQI according to the rosacea subtypes and gender.

	Male				Female			
	N	Mean+St.D.	Min.	Max.	N	Mean+St.D.	Min.	Max.
Erythematotelangiectatic	5	4.40+2.07	3.00	8.00	23	10.96+5.97	3.00	21.00
Papulopustular	13	12.54+7.28	4.00	27.00	80	16.65+6.11	4.00	30.00
Phymatous	4	16.00+4.83	12.00	23.00	0	-	-	-
Ocular	3	13.67+6.11	7.00	19.00	10	18.60+7.37	8.00	30.00
p	0.0456				0.0003			

In both genders rosacea's influence on patients' quality of life is significantly low in the case of Erythematotelangiectatic subtype. Phymatous cases were higher in male patients. The Ocular subtype is higher in female patients.

Table 4. Assessment of integral characteristics of quality of life according to gender.

	Female (n=113)	Male n=25	
	Mean+St.Dev.	Mean+St.D.	P
Symptoms and feelings	3.90+1.66	2.96+1.62	0.0128
Treatment	1.67+1.04	1.12+0.88	0.0148
Daily activities	3.28+1.54	2.28+1.49	0.0045
Leisure	2.57+1.50	2.24+1.67	0.3734

Personal relationships	2.53±1.54	1.88±1.69	0.0859
Work and/or school	1.71±1.23	1.16±1.14	0.0432

Assessment of integral characteristics of quality of life was higher in female patients, at the same time both genders highly rated Symptoms and feelings, and Daily activities. Low quality of life in female parties was significantly higher in Symptoms and feelings, Treatment, Daily activities, Work, and/or school.

The total assessment of the quality of life - female patients- 15.67±6.61(range 3-30), male-11.60±6.95(range 3-27), $p=0.0067$.

As the quality of life score is reliably higher in women, the negative effects of rosacea are reliably higher for them.

The difference between genders in terms of problem-solving is bellowed in Table 5.

Table 5. Assessment of coping strategy according to the gender

	female	male	F	P
Gender	M±SD	M±SD		
Positive reinterpretation and growth	2.63±0.97	3.13±0.75	-2.85	0.0066
Mental disengagement	2.03±0.83	2.13±0.72	-0.63	0.5303
Focus on and venting of emotions	2.87±0.94	2.27±0.82	3.24	0.0025
Use of instrumental social support	2.60±1.02	2.83±0.90	-1.05	0.2935
Active coping	2.70±1.06	2.84±0.93	-0.66	0.5154
Denial	2.09±0.92	2.09±0.74	0.00	0.9971

Religious coping	2.04±0.94	2.33±0.98	-1.36	0.1837
Humor	2.00±0.87	1.88±0.90	0.60	0.5496
Behavioral disengagement	1.92±0.80	2.14±0.98	-1.18	0.2391
Restraint	2.38±0.98	2.51±0.82	-0.70	0.4886
Use of emotional social support	2.83±0.97	2.29±0.93	2.58	0.0139
Substance use	1.44±0.67	1.37±0.56	0.58	0.5636
Acceptance	2.39±0.97	2.35±0.84	0.23	0.8198
Suppression of competing activities	2.31±0.80	1.96±0.72	2.16	0.0369
Planning	2.32±0.83	2.43±0.88	-0.58	0.5653

In women compared to men Suppression of competing activities and Daily activities, focus on and venting of emotions was significantly higher. In male - Positive reinterpretation and growth

Correlation analysis revealed a connection between the characteristics of quality of life and the factors of Copping's strategy.

In female patients there was a significantly negative correlation between Symptoms and feelings- Mental disengagement - r=-0.193*, p=0.041; Acceptance- r=-0.274**, p=0.003; Problems with Treatment had a significantly negative correlation among- Mental disengagement- r=-0.265**, p=0.005; Acceptance- r=-0.254**, p=0.007; Daily activities with Acceptances=-0.188*, p=0.046; Personal relationships with - Acceptance r=-0.213*,p= 0.023.

In male patients, there was a correlation between Treatment and Positive reinterpretation and growth - r =0.434*, p =0.030. There was a significantly negative correlation between Work and/or school and the Use of instrumental social support- r =-0.399*, p =0.048.

Discussion: Rosacea is a skin disorder with multiple signs and symptoms. In individuals, these features may be multiple, or one may predominate. While studies on the epidemiology of rosacea have previously been sparse, there has been a recent increase in research activity [15].

There are data on both equal distribution by gender and the prevalence of rosacea among women. The results of a study conducted on 60,000 patients in Great Britain showed that most patients were women (62%). Severe cases of the disease were mostly we have in the case of male patients [16] and Women are affected at a younger age than men [17]. However, a study conducted in Greece showed that the incidence of rosacea is the same in women and men [18,19].

Among the patients examined by us- 18.12% were men, and 81.88% were women (p<0.0001); However, this data may be due to the lower participation of male patients.
According to the literature, in most women, the disease begins after the age of 35 and peaks at the age of 61-65, while in men, it most often begins at the age of 50 and reaches its peak at the age of 76-80 [20].
According to our data, the average age of disease manifestation in women and men is not significantly different (p=0.2959), while the Phymatous subtype was detected only in men.

In the study by K. Kyriakis, the frequency of the Erythematoteleangiectatic subtype was significantly higher than the frequency of the Papulopustular form, and a correlation between rhinophyma and male gender was revealed - odds ratio OR=4.2 (p=0.02) [21].

According to our material, the Papulopustular subtype prevailed in both men and women. However, the frequency of this subtype was incredibly high in women (p=0.0705), and Ocular - in men (p=0.6286). The Phymatous subtype was observed only in men, the frequencies of the Erythematogenic subtype did not differ significantly by gender.
Rosacea can be classified as a socially significant სოციალურად მნიშვნელოვან disease. It reduces the quality of life and causes depressive disorders. Nosogenic characteristics are determined by many psychological, personal, social, and biological factors - including the

objective characteristics of the disease, such as the severity of symptoms and sensations caused by the disease, which causes maladaptation of these patients and reduces the response to standard therapy [22]. [Перламутров Ю.Н. и соавт., 2013; van der Linden M.M. et al., 2015].

In female patients, DLQI scores ranged from 4.1 to 17.3 [23].

Path analysis suggested that symptoms of anxiety and depression are linked with somatic symptoms indirectly, mediated through the quality of life and stigmatization. Men are more negatively affected [24]. Men reported significantly greater impairment of HRQoL than women ($p < 0.05$) [25]. According to our data, the score HRQoL is higher in women, than in men ($p=0.0067$).

There was a significant difference in the total score and in the "Emotion" and "Symptom" domains of the RosaQoL-BR questionnaire. The "Symptom" domain and the total score showed that rosacea had a greater impact on the quality of life of females. The "Emotion" domain showed, albeit subtly, a greater impact on males [26].

Based on our data, in the assessment of women, compared to men, significantly higher Symptoms and feelings, Treatment, Work and/or school quality of life.

The category "coping" is an arbitrary and free theoretical form, created to facilitate describing and classifying possible human adaptation mechanisms. The conceptual area is extensive and has three references: process, strategy, and style [27].

With respect to gender, it is hypothesized a larger use of emotional coping and social support seeking within women and a larger use of problem-solving within men [28].

Our study revealed the difference between the genders among the frequencies of coping mechanisms:

Daily activities, focus on and venting of emotions, and Use of emotional social support, are significantly higher in females than in males, lower is Positive reinterpretation and growth.

A difference was also revealed between the groups in terms of the correlations between the characteristics of the quality of life assessment and the factors of the coping strategy: in women, Symptoms and feelings have a reliable negative correlation with Mental disengagement and Acceptance; It shows a reliable negative correlation with Treatment-related problems with Mental

disengagement and Acceptance; There is also a negative correlation between Acceptance and Work and/or school and Personal relationships.

In male patients, Positive reinterpretation and growth correlated with Treatment, and the use of instrumental social support is reliably negatively correlated with Work and/or school.

Conclusion:

There are reliable differences between men and women with rosacea in terms of quality of life, problem perception, and individual characteristics of coping strategies.

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Authors' contributions

All authors contributed to data analysis, drafting, and revising of the paper and agreed to be responsible for all aspects of this work.

Conflict of Interest

 There are no conflicts of interest in this study.

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