Prevalence of Obesity among Female Patients with Rosacea

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ABSTRACT

Background: Rosacea is a chronic skin (mainly facial skin) disease of unclear origin. Epidemiological data are scarce and controversial, with reported prevalence ranging from 0.09% to 22%. To our knowledge, prevalence of obesity among female patients with rosacea has not been understood.

Objective: We sought to investigate the relation between rosacea in female patients with prevalence of obesity.

Material & Methods: Between January and June 2018, a study including 230 female rosacea patients were observed to understand the prevalence of obesity in these patients. Demographic data, clinical features of rosacea patients, anthropometric measures and BMI were recorded.

Results: Two hundred and thirty female participants enrolled and completed the survey. Among the total, 188 participants were having Erythematotelangiectatic rosacea variant and 42 were classified as papulopustular rosacea. Of the total 26 were having BMI <21 while 7 had BMI>35. The maximum participants 97 had BMI ranging 25-29.9.

Conclusion: There is significant relationship between obesity and rosacea. This is a window to further research to help to conclude if addressing obesity may help improve rosacea.

Keywords: Obesity, rosacea, BMI.
MATERIAL AND METHODS
This study involved 230 female patients aged ≥18 years visiting the Department of Dermatology, Saidu Teaching Hospital, Saidu Sharif Swat, KPK Pakistan. The selection of female patients was by chance as no male patient visited the OPD for consultation. This further emphasized the disease being more common in female patients, again reflecting that female patient Quality of life is more affected. On this basis the title was revisited and female patients with rosacea mentioned. Moreover, the female patients with induced rosacea and other dermatosis were excluded resulting in the reduced sample size. The study was performed between 1st January and 30th June 2018. Inclusion criteria required the female subjects to be of an appropriate age, to have maintained informed written consent for the purpose of medical history taking, and to demonstrate conscious agreement to her participation in the study. All participants were thoroughly evaluated in a stratified clinical interview and a physical examination with special emphasis was placed on excluding other dermatological issues. Special emphasis was made to include those with papulopustular and Erythematotelangiastic type, because of being major subtypes and being commonest. No patient was received with phymatous type and induced rosacea was excluded purposely.

Statistical Analysis
All collected data were statistically analyzed using SPSS Version 24. P-values of < 0.05 were considered to indicate statistical significance.

RESULTS
Among total of 230 patients who presented with Rosacea to the Skin OPD, 188 (81.74%) were having Erythematotelangiastic type and 42 (18.26%) were having papulopustular rosacea. Only 1/230 patient (0.53%) was underweight and had Erythematotelangiastic type rosacea. Total of 52 (22.61%) were obese, among which 41 (78.84%) were having Erythematotelangiastic Rosacea. Papulopustular type contributed as 11 (21.16%) of the total obese with rosacea. Of the total 230 sample size 97 (42.17%) were overweight, of which 79 (81.5%) were of Erythematotelangiastic type and (18.5%) were papulopustular. The rest that is 80/230 (67-ET & 13PP) patients ranged in normal BMI.

DISCUSSION
We found that obesity was associated with increased risk for rosacea. To our knowledge, this is the first cohort study on the association between obesity and risk for incident rosacea.

The previous literature shows inconsistent findings on the association between obesity and rosacea. Two case-control studies indicated null findings.11, 12 One based on the General Practice Research Database (Oxford, UK) showed neither high nor low BMI to be associated with an altered risk for rosacea,11 and the other small-scale case-control study from Turkey indicated no significant difference of BMI between rosacea group and controls.12 However, a cross-sectional study in Poland showed a statistically significant relationship between increased BMI and rosacea,19 and another cohort-based survey of twins in the United States showed a positive correlation between BMI and rosacea severity scores.13

We showed significantly positive associations between rosacea with raised BMI.

<table>
<thead>
<tr>
<th>Type</th>
<th>Underweight (&lt;18.5) (%)</th>
<th>Normal (18.5-24.9) (%)</th>
<th>Overweight (25-29.9) (%)</th>
<th>Obese (&lt;=30) (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythematotelangiastic</td>
<td>1 (0.53%)</td>
<td>67 (35.64%)</td>
<td>79 (42.02%)</td>
<td>41 (21.81%)</td>
<td>188</td>
</tr>
<tr>
<td>Papulopustular</td>
<td>0 (0.0%)</td>
<td>13 (30.95%)</td>
<td>18 (42.86%)</td>
<td>11 (26.19%)</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>1 (0.43%)</td>
<td>80 (34.78%)</td>
<td>97 (42.17%)</td>
<td>52 (22.61%)</td>
<td>230</td>
</tr>
</tbody>
</table>

Table 1. Comparison of Rosacea with BMI
A major strength of our study is the prospectively collected data. Because individuals' obesity can change over time, updating information on obesity ensured that we used the most accurate information for our exposure, thus avoiding misclassification. We acknowledge some limitations, like taking BMI without establishing relationship with Waist Hip circumference or ratio, obese participants might be more likely to see their physician for comorbidities and therefore be incidentally diagnosed with rosacea. On the other hand, obese participants might defer complaints related to relatively minor skin diseases in favor of focusing on more serious comorbidities. Another limitation is the lack of information on rosacea subtypes; different types of rosacea have known etiologic heterogeneity.  

In summary, we provide evidence that obesity might be associated with an increased risk for rosacea. The study contributes to the understanding of rosacea etiology and informs clinical practice related to rosacea associations.

CONCLUSION
In summary, chronic condition like Rosacea needs to be addressed from all the aspects. Therapies that address the underlying cause is the only means to deal successfully with the unsightly appearance and the bothersome symptoms of rosacea. Again, with appropriate education regarding etiology and treatment is needed for better outcome. This study contributes to the understanding of rosacea etiology and associations and gives an initiative regarding clinical practice related to rosacea associations. In future research we look forward to the expected fact, if treating obesity is going to treat/improve Rosacea?

REFERENCES