Quality of life in Keratoconus patients after correction with Rose K lenses

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Background

• Keratoconus has an impact on quality of life which may be disproportionate to the amount of visual loss – CLEK study*

• Recent development in RGP lens designs – ‘Rose K family of lenses for different types of cones in Keratoconus’

• The reported benefits of this lens are
  – better visual acuity
  – increased comfort for Keratoconus patients*


*New Zealand lens system may offer practitioners a better way to fit keratoconic patients. Primary Care Optometry News, June 1997. Available at http://www.slackinc.com/eye/pcon/199706/Zealand.asp Accessed May 15, 200
Aim & Objectives

Aim:

Compare the Vision related Quality of Life (QoL in Keratoconus patients when they are shifted from their habitual correction to Rose K lenses

✓ 25-item National Eye Institute- Visual Function Questionnaire (NEI – VFQ 25)

✓ objective measure of visual function

✓ self-reported assessment of comfort and vision

✓ patients preference and choice of correction
Methodology

- Prospective non-randomized study with convenient sampling method

- Initial visit

- Dispensing Visit

- Outcome visit (after 1 month of Rose K lens wear)
Statistical Analysis

• Data were collected and statistical analyses were performed using SPSS

• Data were checked for normality and analyzed:
  – to determine whether the differences exist or not between baseline and outcome QoL
  – to compare the difference in performance between Spectacle and RGP wearer later corrected with Rose K lens

• A p value of $\leq 0.05$ is considered significant
Results

• Total subjects: 19

• Males: 13 (68%)

• Mean age: 27 years (± 12.14)

• Mean of steep keratometric reading of the steep eye was 59.53 D (± 9.33) and flat eye was 53.27 (± 6.76)

• 95% subjects were either students or employed
NEI VFQ - 25: Habitual correction Vs Rose K

* p < 0.05
Visual Function

<table>
<thead>
<tr>
<th>Variables</th>
<th>Habitual Correction</th>
<th>Rose K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visuta Acuity (logMAR)</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Steep eye</td>
<td>0.597</td>
<td>0.37</td>
</tr>
<tr>
<td>Flat eye</td>
<td>0.438</td>
<td>0.39</td>
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</tbody>
</table>

| Contrast Sensitivity (Log)    |                     |        |        |        |
| Steep eye                     | 1.5                 | 0.901  | 2.1    | 0      |
| Flat eye                      | 2.09                | 0.03   | 2.1    | 0      |

Visual function with habitual correction and Rose K lens for steep and flat eye.
Vision and Comfort

Self-reported assessment of vision and comfort with habitual correction and Rose K.
Spectacles wearers to Rose K

- Subjective comfort did not improve
RGP wearers to Rose K

- Subjective Vision did not show significant difference
Rose K study Comparison

• The mean overall score of NEI-VFQ 25 at the outcome of this study was 91.50 (± 7.42) as compared to the ‘Visual Performance and Comfort with the Rose K Lens for Keratoconus’ study, which was 87.42 (± 13.19).

• In our study, 17 (89%) subjects chose Rose K lenses over the habitual correction as compared to 15 (87%) subjects from the reference study.

Limitations

- Limited sample size
- Convenient sampling from one practice center
- Non blinded
Conclusion

- Rose K lenses improved patient’s overall quality of life in moderate and advance cases of keratoconus
- Subjects reported that Rose K lenses are more comfortable and provide better vision
- Out of the total subjects, 17 (89%) of them chose Rose K lenses over their habitual correction in spite of their comparatively higher cost
Thank You

Asante  Arigato  Ngiyabonga
Spasibo  Gracias  Mahalo
Merci  Xie Xie
Paldies  Grazie  Dziekuje
Efharisto  Toda  Abarka
Danke  Tack  Obrigado