PH9: Eye Blinking Pattern, Corneal Staining and Compliance among Soft Contact Lens Wearers

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ABSTRACT

Introduction: The present of corneal staining in contact lens wearers can be influenced by many factors which may indicate the success rate of contact lens wear. **Methods:** This study was conducted to determine the eye blinking pattern, corneal staining and compliance in a group of soft contact lens (CL) wearers. Forty-one soft CL wearers and 41 control subjects (non CL wearers) were recruited in this study. Complete and incomplete blinking patterns were assessed with a digital camera attached to a slit lamp biomicroscopy. Corneal staining was graded using Institute for Eye Research (IER) grading scale with 0.1 increments. A questionnaire was used to determine the subject's compliance level. **Results:** There was no difference in eye blinking pattern between the CL wearers and control group (Mann-Whitney, p = 0.231). The average grade of corneal staining in CL wearers and control group were 0.38 ± 0.39 unit and 0.01 ± 0.08 unit respectively. There was a significant difference in corneal staining between these two group (Mann-Whitney, p = 0.021). Result also showed 63.4% of the subjects had good compliance towards lens care. Significant positive correlation was found between blinking pattern and corneal staining (Spearman $\rho=0.378$, p=0.015). **Conclusion:** Eye blinking pattern influenced corneal staining and compliance level was found not to be associated with corneal staining.

KEY WORDS:
Soft contact lens, blinking pattern, corneal staining, compliance

PH10: Effects of HIIT Intervention on PGC-1α and Adipor1 Genes Expressions and Body Composition in Obese Individuals

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ABSTRACT

Introduction: Lifestyle-related diseases are rapidly increasing, in part due to less physical activity. However, little is known about the effect of high-intensity interval training (HIIT) on the expression of key regulatory proteins that are linked to fatty acid oxidation and insulin sensitivity in obese individuals. This study investigated the effects of 12-week HIIT on the expression of PGC-1α and AdipoR1 and body composition in overweigh/obese individuals. **Methods:** Fifty individuals were randomly assigned to either a control (n=25) or HIIT (n=25) group. Subjects assigned to HIIT underwent a 12-week HIIT intervention 3 days/week at an intensity of 65%-80% of the age-based maximum heart rate. Anthropometric measurements and gene expression analysis were conducted at baseline and post intervention. Data were analysed using mixed-designed ANOVA. **Results:** Significant time-by-group interactions (p<0.001) were found for weight, BMI, waist circumference and percentage of body fat. The HIIT group had significantly lower weight (-2.3%, p<0.001), BMI (-2.7%, p<0.001), waist circumference (-2.4%, p<0.001) and percentage of body fat (-4.3%, p<0.001) post intervention. HIIT also significantly increased the expression of PGC-1α and AdipoR1 by 2-fold and 3-fold respectively. **Conclusion:** Findings from current study suggest that HIIT modulates the PGC-1α and AdipoR1 gene expressions, in conjunction with modest improvements in body composition in overweight/obese individuals. This implies that manipulation of the expression of these genes could be a potential surrogate for exercise-mediated improvements of improved metabolism in overweight/obese individuals.

KEY WORDS:
Obesity, metabolism, high intensity interval training, PGC-1 alpha, adiponectin receptor gene