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OCULAR CHANGES DURING VARIOUS TYPES OF FASTING – A SCOPING REVIEW

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ABSTRACT

Purpose:

To study the impact of fasting on eye.

Method:

The article published between 2001 to 2022 were identified from various electronic databases like PubMed/Medline, Google scholar, Springer, Science Direct, Ovid, Web of Science using specific keywords. The articles identified were critically appraised and the ones satisfied the quality assessments were reviewed and the significant results were extracted.

Results:

7 articles were included for the final review. The major findings are as follows; Fasting decreases tear production and increases tear osmolarity provided no change in corneal topographic parameters and corneal aberration. Studies show that calorie restriction delays in age related cataract and age related retinal vessel dysfunction provided alternate day fasting for 6 months recover inner retinal function following IOP. There is a change is tear film characteristics as well, its noted that there is a slight increase in tear break up time. There are various

physiological changes taking in the anterior segment during fasting: - Anterior chamber depth notices a significant increase during fasting, axial length decreases during fasting due to dehydration whereas calculated IOL power is significantly increased.

Talking about the changes in the posterior segment choroidal thickness under fovea centre was found to be higher in fasting than non- fasting period. It is also observed in the decrease in retinal vascular reactivity due to fasting and dehydration.

Conclusion:

Fasting is the absence of fluid and food intake. There are various mode of fasting each varying in eating hours, quantity and quality of food intake. Prolonged hours of fasting is proven to be dangerous for both health and performance. But regulating fasting period has various benefits to the body resulting in physiological changes. Fasting modulates a variety of physiological parameters leading to a change in eye function. Ocular blood flow is changed during fasting. Fasting causes various changes especially in the intraocular pressure, tear film, ocular blood flow as well as ocular refractive, accommodation and biometric characteristics Fasting and dieting hence play a great role in ocular changes.