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"MOTION AND FORM PERCEPTION IN GLAUCOMA - A SYSTEMATIC REVIEW and META ANALYSIS"

ASWANI UNNIKRISHNAN .

Manipal College of Health Professions

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Recommended Citation

., ASWANI UNNIKRISHNAN, ""MOTION AND FORM PERCEPTION IN GLAUCOMA - A SYSTEMATIC REVIEW and META ANALYSIS"" (2021). *Manipal College of Health Professions, Manipal Theses and Dissertations*. 2.

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ABSTRACT

Purpose: The purpose of this study was to conduct a systematic review and meta-analysis in order to determine the changes in motion perception and form perception in glaucoma.

Method: Literature search was conducted in PubMed, Excerpta Medica dataBASE (EMBASE), Scopus Wiley Online Library and Web of Science. Studies investigating the changes in motion and form perception in POAG, PACG, OHT, Glaucoma suspects and NTG were considered. Methodological quality and quality of evidence of eligible studies were assessed using the National Institutes of Health (NIH) risk of bias tool and rating.

Results: Among 31 full text articles that was eligible for analysis only nine articles on motion perception were included for Meta-analysis. Random dot kinetogram (RDK) and line displacement stimulus were used to measure motion coherence thresholds. The motion coherence thresholds were elevated in glaucoma, OHT and glaucoma suspect groups when compared to the normal participants. Form perception had comparatively a small number of studies and couldn't be used for meta-analysis. The present articles show that global form coherence threshold was measured using glass patterns and the coherence values were elevated in glaucoma. Pattern discrimination thresholds were decreased in glaucoma.

Conclusion: All the studies on glaucoma were focused on POAG subgroup of glaucoma as it is more prevalent in the Western regions. There is a need to check for visual functional changes in PACG to understand if the loss/deterioration of functional changes are similar in POAG and PACG.