Improving the Efficacy of the Pinhole Glasses

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Background: Refractive error is common among general population, and it can be corrected with special glasses called "pinhole glasses". These glasses are used for specific purposes such as watching TV or reading, since they do not correct the refractive error of the eye. It is difficult and even dangerous to walk while using the pinhole glasses due to their limited field of vision (tubular vision). They can be uncomfortable, exhausting and subjectively isolating. Purpose: to improve the efficacy of the classic pinhole glasses by attaching them to the patients' optical glasses, and enlarging their pinholes' diameter, in order to widen the field of vision through them while preserving and even improving the patients' visual acuity and to educe the problem of fatigue and loneliness and discomfort, the study glasses. Methods: 33 participants, 18 years or older, with uncorrected visual acuity of 15 letter according to Snellen chart, or less were included. Each participant underwent visual acuity in the following situations: uncorrected, uncorrected with the classic 1mm diameter pinhole glasses, best corrected with optical glasses, then with the corrective optical glasses in addition to 1.5mm pinhole, 2mm pinhole and 3mm pinhole glasses. Results: the mean improvement of visual acuity with the 3mm pinhole study glasses compared to the uncorrected visual acuity with the classic pinhole glasses was 4.8 ±0.632 letters. Conclusions: The study glasses are more efficient than the classic pinhole glasses in improving field of vision and visual acuity, and reducing the problem of fatigue and loneliness and discomfort.

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