

OPHTHALMIC LENSES-NECESSITY OF STANDARDIZATION IN REPUBLIC OF MACEDONIA

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Abstract – Most of the people in RM purchase their glasses over the counter (OTC) readers which are not made by prescription and custom made parameters: sphere power for each eye, cylinder, axis and monocular PD (distance between pupils). Unfortunately, the cheap price and uninformed patient are the main reasons for using these non-prescribed and mass-produced glasses, with poor quality and one size fits all. Practically prescription glasses have to design for any user individually. In order to cover all refractive corrections correctly, the optical center of each lens must be aligned with the center of each of eyes' pupils.

In this research 14 pairs of OTC glasses were observed. They were investigated for two parameters: prescribed lens power which is for mostly non-symmetric for both eyes with the power of wearing OTC glasses; as well for PD of patients and optical centre of the glasses lens. For 14 lenses of the total 28, the differences between prescribed and wearing power were obtained; ranged from 0.250 to 2.50 D. The optical center of a lens was shifted away from its expected position (front of the eye) in 24 cases resulted decentration from 1.0 to 6.5 mm. Consequently, induced prismatic effect was in range 0.25 - 1.80Δ; with an average value of 0.73Δ. Further more, obtained results were compared with ANSI Z-90 Standardization Tolerance Chart. In 19 cases, difference in lens power exceed limit of 0.125D and given limit of 0.33Δ prismatic effect was not satisfied for 14 lenses. Taking into account both criteria only, two lenses were safe for using according to investigated parameters.

It should be note that even they cannot damage eyes they will impaired the vision and made less productivity and safety in working with them. Vision is something that we should all take seriously, so never risk making eye problems worse by postponing a prescription. Even small numbers cases and parameters, the results of this research indicate a necessity for standardizations as well regulations for ophthalmic lenses.