Comparison of Stereopsis with TNO and Titmus Test in Symptomatic and Asymptomatic University Students

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Comparison of Stereopsis with TNO and Titmus Test in Symptomatic and Asymptomatic University Students

Description
This study endeavored to determine the best cut-off points for distinguishing between symptomatic and asymptomatic subjects with the TNO (global) and Titmus (local) stereopsis tests. They were determined to be 90 and 45 seconds of arc, respectively, in the population of 174 students.

Disciplines
Optometry

Comments

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ABSTRACT
This study endeavored to determine the best cut-off points for distinguishing between symptomatic and asymptomatic subjects with the TNO (global) and Titmus (local) stereopsis tests. They were determined to be 90 and 45 seconds of arc, respectively, in the stereopsis tests. They were determined to be statistically different with the Mann-Whitney U test.

METHODS
In this cross-sectional study, 174 randomly selected students of Zahedan University of Medical Sciences that met inclusion criteria served as subjects. Subjects were divided into symptomatic and asymptomatic groups according to the presence or absence of binocular vision symptoms. Dissociated heterophoria was determined with use of the alternate prism cover test and stereopsis with TNO and Titmus tests.

RESULTS
The mean measured stereopsis with TNO and Titmus tests and using the default crossed disparity, with the test booklets upright, and uncrossed disparity, with the stereo-tests inverted, presented for all subjects by symptoms are in Table 1.

<table>
<thead>
<tr>
<th>Stereopsis Test</th>
<th>Asymptomatic Subjects</th>
<th>Symptomatic Subjects</th>
<th>All Subjects</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossed TNO</td>
<td>76.7 ± 81.9</td>
<td>133.1 ± 68.6</td>
<td>92.3 ± 82.2</td>
<td>0.001</td>
</tr>
<tr>
<td>Uncrossed TNO</td>
<td>83.2 ± 49.3</td>
<td>135.0 ± 66.0</td>
<td>97.5 ± 58.9</td>
<td>0.004</td>
</tr>
<tr>
<td>Crossed Titmus</td>
<td>40.7 ± 3.3</td>
<td>44.3 ± 7.1</td>
<td>41.7 ± 4.6</td>
<td>0.006</td>
</tr>
<tr>
<td>Uncrossed Titmus</td>
<td>40.0 ± 0.0</td>
<td>50.0 ± 11.8</td>
<td>42.7 ± 7.6</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

CONCLUSION
Stereopsis is useful in distinguishing between symptomatic and asymptomatic individuals. For that purpose, a global test was more useful than a local test. Specifically, symptomatic subjects could be detected at a higher (90 arc sec) threshold with random-dot stereopsis than the 45 arc sec symptom threshold with Titmus-type stereopsis. Clinicians can note that, according to the results of this study, fully half of esophoric patients will be symptomatic, while only approximately a quarter of exophores were.

References
3. Ehsani M, Gholami K, Kundart J, Momeni-Moghaddam H. Measurement of stereopsis with the stereo-tests inverted, upright, and uncrossed disparity, with the test booklets with TNO and Titmus tests and for all subjects by symptoms are in Table 1.

Acknowledgments: We thank the students who participated as subjects in this study.