

Comparative Study of Repeatability of Phenol Red Thread Test versus Schirmer's Test in Normal Adults in Saudi Arabia

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ABSTRACT

OBJECTIVES:

To investigate the repeatability of the phenol red thread (PRT) and Schirmer's tests in healthy Saudi adults. Additionally, we compared the PRT mean value with those reported previously, because of significant differences between Hong Kong-Chinese, Japanese and US subjects.

METHODS:

Thirty healthy young Saudi adults (7 males and 23 females; 60 eyes) with a mean age of 22.37 ± 2.31 years were recruited. Participants provided consent and completed a McMonnies questionnaire. Dry eye subjects were excluded based on this questionnaire and slit-lamp examination. Both eyes of each subject were examined using the PRT and Schirmer's tests. Each test was repeated three times for each eye, 5 minutes apart. The PRT test was applied first, followed by the Schirmer's test 15 minutes later under anesthesia to avoid any inconsistency of the measurements due to reflex tears.

RESULTS:

The PRT and Schirmer's tests both demonstrated good repeatability with no statistically significant differences. There was a poor correlation between the two tests ($r = 0.286$). There was no statistically significant difference between the oculus dexter and oculus sinister in the two tests. The mean PRT values in normal Saudi subjects were higher than reported previously for Hong Kong-Chinese, Japanese and US subjects.

CONCLUSIONS:

Both the PRT and Schirmer's tests displayed good repeatability; however, there was a poor correlation between the tests, as reported previously. The mean PRT value in normal Saudis was higher, as compared to those reported previously for other ethnic groups.

Key Words: Phenol red thread test-Schirmer's test-Repeatability-Tear volume-Ethnic effect