Thesis Title The Study of Intranasal Pressure in Normal and Cleft Palate Speakers

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Abstract

U-tube water manometer was recommended for assessing velopharyngeal adequacy in the speech clinic because of its simplicity in using. Also this inexpensive, easily constructed could yield an objective reading. In this study the sensitivity of such instrument coupled with a 3-mm.bleed valve was investigated in which the nasometric data between 50 normal and 25 cleft palate speakers were compared. Each subject was required to read from cards the vowels, syllables, phrases and sentences under controlled loudness. All subjects were retested after one week apart.

The results indicated that most normal speakers showed 0-cm. nasal manometric pressure reading during vowel and syllable productions. For the cleft palate group, the

significantly higher average nasal pressure readings were obtained for all those items except /aaa/. The mean nasal pressure reading of the cleft palate group for vowels /aaa/, /iii/ and /uuu/ were 0.0013, 0.0573 and 0.0720 cm., respective and for syllables /papapa/, /tatata/, /fafafa/, /$t\c{c}^{h}at\c{c}^{h}at\c{c}^{h}a$/ and /sasasa/ were 0.3820, 0.3093, 0.3520, 0.4200 and 0.7186 cm. . For phrases and sentences, the cleft palate speakers had significantly higher average nasal pressure reading than normal group. The intranasal pressure in test-retest conditions were not significantly different and a high correlation between these two conditions were obtained. When the nasal pressure reading of the vowels in cleft palate group were compared, it was found that /iii/ and /uuu/ were significantly higher than /aaa/. However, the difference between /iii/ and /uuu/ was not statistically significant. For syllable productions, the highest nasal pressure reading was observed on /sasasa/ while the rest of the syllables were not significantly different from each other. The results of this study suggested that nasal manometer could be used as a clinical tool for differentiating patient who had velopharyngeal insufficiency from normal.