

Relationship between the Fundamental Frequency and Mean Air Flow Rate*

ASHA, G. G.

The air flow and vocal cord vibration plays an important role in determining the pitch and intensity. A single aspect of voice production such as pitch should not be evaluated in isolation but as part of the voice production system and the relationship between flow rate and pitch must be given due significance.

The purpose of the present study was to find out the relationship between MAF rate and different parameters of glottograms like OQ, SQ and SI at :

- (a) Habitual frequency (HF),
- (b) HF + 50 Hz,
- (c) HF + 100 Hz and
- (d) below HF.

Fifteen normal males and 15 normal females in the age range of 17 to 27 years were studied using Expirograph, Electrolaryngograph, VISI pitch and High Resolution Signal Analyzer.

Both MAF rate and glottograms were recorded simultaneously at different frequency levels, keeping the intensity constant.

* Master's Dissertation, University of Mysore 1987.

The data obtained were subjected to statistical analysis to find out the mean, significance of difference and coefficient of correlation.

Conclusions

The following conclusions were made based on the results of the present study :

- (1) There was a significant increase in MAF rate with increase in frequency proportionately in males and not proportionately in females and proportionate decrease in MAF rate with decrease in frequency both in males and females.
- (2) There was no much difference in OQ values at different frequency levels both in males and females.
- (3) There was no much difference in SQ values at different frequency levels in males, whereas in females SQ at below habitual frequency was significantly different from other frequency levels.
- (4) There was no much difference in SI values at different frequency levels in males, whereas in females SI below habitual frequency was significantly

different from SI at above habitual frequency levels.

- (5) There was no relationship between MAF rate and different parameters of glottograms like OQ, SQ and SI at different frequency levels both in males and females.

Recommendations

- (1) Using the same method the study can be carried out on larger population.
- (2) Can be carried out in dysphonics.
- (3) Can be carried out in different age groups.