

SUPPLEMENTARY MATERIAL 1

Parameters of phonatory characteristics (as per Computerized Speech Labs 4500, KAYPENTAX, Lincoln Park, NJ, USA)

Electroglottography (EGG; model 6103, KAYPENTAX, Lincoln Park, NJ, USA) parameter included

Contact quotient (CQ, %): The duration of contact at the closing phase of the phonatory cycle. The CQ measures the electrical impedance between the vocal folds during a glottal vibratory cycle.

Multi-Dimensional Voice Program (MDVP) (ver.5105, KAYPENTAX, Lincoln Park, NJ, USA) parameters included

1. Fundamental frequency (F_0 , Hz): Average value of all period to period change in frequency in a voice sample.
2. Frequency perturbation parameters:
 - 1) Jitter percent (Jitt, %): Period to period variability of the pitch within the analyzed voice sample.
 - 2) Smoothened pitch period perturbation quotient (sPPQ, %): Pitch variations occurring between consecutive pitch periods.
 - 3) Coefficient of frequency variation (vF_0 , %): Variations of F_0 for all period to period analyzed voice samples.
3. Amplitude perturbation parameters:
 - 1) Shimmer percent (Shim, %): Period to period variability of the peak to peak amplitude within the analyzed voice sample.
 - 2) Smoothened amplitude perturbation quotient (sAPQ, %): Amplitude variations occurring between consecutive pitch periods.
 - 3) Coefficient of amplitude variation (vAm , %): Amplitude variations within the analyzed voice sample.
4. Noise related parameters:
 - 1) Noise to harmonic ratio (NHR): Noise present in the analyzed signal.
 - 2) Soft phonation index (SPI): Indicates how completely or tightly the vocal folds adduct during phonation.
5. Tremor parameters:
 - 1) F_0 tremor frequency (Fftr, Hz): Most intensive low frequency F_0 modulating component, i.e., rate of periodic tremor of the frequency.
 - 2) Amplitude tremor frequency (Fatr, Hz): Frequency of the most intensive low frequency amplitude modulating component, i.e., rate of amplitude change.
 - 3) Frequency tremor intensity index (FTRI, %): Magnitude of the frequency tremor.
 - 4) Amplitude tremor intensity index (ATRI, %): Magnitude of the amplitude tremor.