The Data for this investigation comprises of 195 supported vowel phonations from 31 male and female subjects, of which 23 were determined to have PD. The time since analyze extended from 0 to 28 years, and the periods of the subjects ran from 46 to 85 years (mean 65.8, standard deviation 9.8). Midpoints of six phonations were recorded from each subject, going from one to 36 seconds long.

The phonations were recorded in an IAC sound-treated corner utilizing a head-mounted receiver (AKG C420) situated at 8 cm from the lips. Class 1 sound level meter (B&K 2238) put 30 cm from the speaker. The voice signals were recorded legitimately to PC utilizing CSL 4300B equipment (Kay Elemetrics), inspected at 44.1 kHz, with 16 piece goals.

**Table 1: List of subjects with sex, age, Parkinson’s stage and number of years since diagnosis.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Subject code | Sex | Age | Stage (H&Y) | Years since diagnosis |
| S01 | M | 78 | 3.0 | 0 |
| S34 | F | 79 | 2.5 | ¼ |
| S44 | M | 67 | 1.5 | 1 |
| S20 | M | 70 | 3.0 | 1 |
| S24 | M | 73 | 2.5 | 1 |
| S26 | F | 53 | 2.0 | 1½ |
| S08 | F | 48 | 2.0 | 2 |
| S39 | M | 64 | 2.0 | 2 |
| S33 | M | 68 | 2.0 | 3 |
| S32 | M | 50 | 1.0 | 4 |
| S02 | M | 60 | 2.0 | 4 |
| S22 | M | 60 | 1.5 | 4½ |
| S37 | M | 76 | 1.0 | 5 |
| S21 | F | 81 | 1.5 | 5 |
| S04 | M | 70 | 2.5 | 5½ |
| S19 | M | 73 | 1.0 | 7 |
| S35 | F | 85 | 4.0 | 7 |
| S05 | F | 72 | 3.0 | 8 |
| S18 | M | 61 | 2.5 | 11 |
| S16 | M | 62 | 2.5 | 14 |
| S27 | M | 72 | 2.5 | 15 |
| S25 | M | 74 | 3.0 | 23 |
| S06 | F | 63 | 2.5 | 28 |
| S10 (healthy) | F | 46 | n/a | n/a |
| S07 (healthy) | F | 48 | n/a | n/a |
| S13 (healthy) | M | 61 | n/a | n/a |
| S43 (healthy) | M | 62 | n/a | n/a |
| S17 (healthy) | F | 64 | n/a | n/a |
| S42 (healthy) | F | 66 | n/a | n/a |
| S50 (healthy) | F | 66 | n/a | n/a |
| S49 (healthy) | M | 69 | n/a | n/a |

Note: Entries labeled “n/a” for healthy subjects for which Parkinson‟s stage and years since diagnosis is not applicable. “H&Y” refers to the Hoehn and Yahr PD stage, where higher values indicate greater level of disability

**Table 2: List of measurement methods applied to acoustic signals recorded from each subject.**

|  |  |  |
| --- | --- | --- |
| Feature | Retained after  filtering? | Description |
| MDVP:Jitter(%) | No | Kay Pentax MDVP jitter as a percentage |
| MDVP:Jitter(Abs) | Yes | Kay Pentax MDVP absolute jitter in microseconds |
| MDVP:RAP | No | Kay Pentax MDVP Relative Amplitude Perturbation |
| MDVP:PPQ | No | Kay Pentax MDVP five-point Period Perturbation Quotient |
| Jitter:DDP | Yes | Average absolute difference of differences between cycles,  divided by the average period |
| MDVP:Shimmer | No | Kay Pentax MDVP local shimmer |
| MDVP:Shimmer(dB) | No | Kay Pentax MDVP local shimmer in decibels |
| Shimmer:APQ3 | No | Three point Amplitude Perturbation Quotient |
| Shimmer:APQ5 | No | Five point Amplitude Perturbation Quotient |
| MDVP:APQ | Yes | Kay Pentax MDVP 11-point Amplitude Perturbation Quotient |
| Shimmer:DDA | Yes | Average absolute difference between consecutive differences  between the amplitudes of consecutive periods |
| NHR | Yes | Noise-to-Harmonics Ratio |
| HNR | Yes | Harmonics-to-Noise Ratio |
| RPDE | Yes | Recurrence Period Density Entropy |
| DFA | Yes | Detrended Fluctuation Analysis |
| D2 | Yes | Correlation dimension |
| PPE | Yes | Pitch period entropy [this paper] |

Note: MDVP stands for (Kay Pentax) Multi-Dimensional Voice Program