## Supplementary Material

## Reading Difficulties in Parkinson's Disease: A Stepped Care Model for Neurovisual Rehabilitation

Supplementary Table 1. Ophthalmological conditions in people with PD with frequent (RD+) and infrequent (RD-) reading difficulties

| Total ( $\mathrm{n}=74)$ |  | $\mathrm{RD}+(\mathrm{n}=55)$ |  | RD- (n=19) |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | N | $\%$ | N | $\%$ | N | $\%$ |
| Cataract | 12 | $16.2 \%$ | 9 | $16.4 \%$ | 3 | $15.8 \%$ |
| Macular degeneration | 11 | $14.9 \%$ | 10 | $18.2 \%$ | 1 | $5.3 \%$ |
| Dry eyes disease | 4 | $5.4 \%$ | 4 | $7.3 \%$ | 0 | $0 \%$ |
| Retinopathy | 4 | $5.4 \%$ | 3 | $5.5 \%$ | 1 | $5.3 \%$ |
| Glaucoma | 3 | $4.1 \%$ | 2 | $3.6 \%$ | 1 | $5.3 \%$ |
| Macular abnormality | 3 | $4.1 \%$ | 2 | $3.6 \%$ | 1 | $5.3 \%$ |
| Corneal abnormality (including pterygium) | 3 | $4.1 \%$ | 3 | $5.5 \%$ | 0 | $0 \%$ |
| Eye movement disorder | 3 | $4.1 \%$ | 1 | $1.8 \%$ | 2 | $10.5 \%$ |
| Visual field defect | 2 | $2.7 \%$ | 2 | $3.6 \%$ | 0 | $0 \%$ |
| Cloudy vitreous humor | 1 | $1.4 \%$ | 0 | $0 \%$ | 1 | $5.3 \%$ |
| Blindness in one eye | 1 | $1.4 \%$ | 1 | $1.8 \%$ | 0 | $0 \%$ |
| History of melanoma in the eye | 1 | $1.4 \%$ | 1 | $1.8 \%$ | 0 | $0 \%$ |
| Missing | 4 | $5.4 \%$ | 2 | $3.6 \%$ | 2 | $10.5 \%$ |
| PD, Parkinson's disease; RD+, people with frequent reading difficulties (often/always); RD-, |  |  |  |  |  |  |
| people with infrequent reading difficulties (never/hardly/sometimes) |  |  |  |  |  |  |

Supplementary Table 2. Missing data of visual, visuoperceptual, and cognitive functions in people with PD with frequent (RD + ) and infrequent (RD-) reading difficulties

|  | Total ( $\mathrm{n}=74$ ) |  | $\mathrm{RD}+(\mathrm{n}=55)$ |  | RD- ( $\mathrm{n}=19$ ) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | N | \% | N | \% | N | \% |
| Visual functions |  |  |  |  |  |  |
| Visual acuity | 1 | 1.4\% | 0 | 0.0\% | 1 | 5.3\% |
| Contrast sensitivity | 7 | 8.1\% | 4 | 5.5\% | 3 | 15.8\% |
| Reading acuity | 2 | 2.7\% | 0 | 0.0\% | 2 | 10.5\% |
| Visual field | 31 | 41.9\% | 25 | 45.5\% | 6 | 31.6\% |
| Color vision | 42 | 56.8\% | 33 | 60.0\% | 9 | 47.4\% |
| Stereopsis | 9 | 12.2\% | 7 | 12.7\% | 2 | 10.5\% |
| Pupillary light reflex | 21 | 28.4\% | 17 | 30.9\% | 4 | 21.1\% |
| Eye alignment | 4 | 5.4\% | 3 | 5.5\% | 1 | 5.3\% |
| Eye motility | 4 | 5.4\% | 3 | 5.5\% | 1 | 5.3\% |
| Saccades | 8 | 10.8\% | 5 | 9.1\% | 3 | 15.8\% |
| Smooth pursuit | 9 | 12.2\% | 7 | 12.7\% | 2 | 10.5\% |
| Convergence | 2 | 2.7\% | 1 | 1.8\% | 1 | 5.3\% |
| Nystagmus | 14 | 18.9\% | 10 | 18.2\% | 4 | 21.1\% |
| Blink rate | 21 | 28.4\% | 16 | 29.1\% | 5 | 26.3\% |
| Optokinetic nystagmus | 20 | 27.0\% | 14 | 25.5\% | 6 | 31.6\% |
| Vestibulo-ocular reflex | 23 | 31.1\% | 16 | 29.1\% | 7 | 36.8\% |
| Visuoperceptual tests |  |  |  |  |  |  |
| L-POST Figure Ground | 5 | 6.8\% | 5 | 9.1\% | 0 | 0.0\% |
| L-POST Shape Ratio | 7 | 9.5\% | 6 | 10.9\% | 1 | 5.3\% |
| L-POST Motion Detection | 8 | 10.8\% | 7 | 12.7\% | , | 5.3\% |
| Trail Making Test A | 10 | 13.5\% | 9 | 16.4\% | 1 | 5.3\% |
| Trail Making Test B | 16 | 21.6\% | 14 | 25.5\% | 2 | 10.5\% |
| Trail Making Test B/A | 16 | 21.6\% | 14 | 25.5\% | 2 | 10.5\% |
| Bells Test | 4 | 5.4\% | 4 | 7.3\% | 0 | 0.0\% |
| Taylor Complex Figure | 10 | 13.5\% | 8 | 14.5\% | 2 | 10.5\% |
| Dot Counting Task | 4 | 5.4\% | 4 | 7.3\% | 0 | 0.0\% |
| Crowding Task | 15 | 20.3\% | 13 | 23.6\% | 2 | 10.5\% |
| Birthday Party Test | 4 | 5.4\% | 4 | 7.3\% | 0 | 0.0\% |
| Corsi Block Tapping Task | 5 | 6.8\% | 4 | 7.3\% | 1 | 5.3\% |
| Silhouettes | 8 | 10.8\% | 8 | 14.5\% | 0 | 0.0\% |
| Cognitive tests |  |  |  |  |  |  |
| Digit Span - forward | 16 | 21.6\% | 12 | 21.8\% | 4 | 21.1\% |
| Digit Span - backward | 16 | 21.6\% | 12 | 21.8\% | 4 | 21.1\% |
| Digit Span - sorting | 16 | 21.6\% | 12 | 21.8\% | 4 | 21.1\% |
| Digit Span - total | 20 | 27.0\% | 16 | 29.1\% | 4 | 21.1\% |
| 15 Words Test - encoding | 22 | 29.7\% | 16 | 29.1\% | 6 | 31.6\% |
| 15 Words Test - recall | 24 | 32.4\% | 18 | 32.7\% | 6 | 31.6\% |
| Letter Fluency | 17 | 23.0\% | 13 | 23.6\% | 4 | 21.1\% |
| HADS Anxiety | 18 | 24.3\% | 13 | 23.6\% | 5 | 26.3\% |
| HADS Depression | 18 | 24.3\% | 13 | 23.6\% | 5 | 26.3\% |

PD, Parkinson's disease; RD+, people with frequent reading difficulties (often/always); RD-, people with infrequent reading difficulties (never/hardly/sometimes)

