

Table 1 Demographics and characteristics of participants ($n = 90$)

| Variables | n (%) / \bar{x} (SD) | Range |
|-------------------------------|--------------------------|-----------|
| Age (yrs.) | 57.4 (8.0) | 45-81 |
| Female gender | 47 (52.2) | NA |
| A1C (%) | 7.8 (2.1) | 5.0-13.0 |
| Glycemic control (A1C < 7.0%) | 44 (48.9) | NA |
| ICO | 0.64 (0.12) | 0.48-0.95 |
| PA | | |
| Inactive or light intensity | 52 (57.8) | NA |
| Moderate or greater intensity | 38 (42.2) | NA |
| Diabetes duration (yrs.) | 8.6 (7.1) | 1-30 |
| Sleep disturbance | 51.5 (9.1) | 26.3-78.1 |
| SRI | 52.3 (9.0) | 26.2-78.1 |
| Fatigue | 50.7 (8.2) | 24.3-69.3 |
| Depressive symptoms | 50.4 (7.6) | 34.1-74.4 |
| Diabetes distress | 2.1 (1.1) | 1.0-5.6 |
| Neuropathic pain | 0.8 (1.1) | 0-4.8 |

Note. ICO, index of central obesity; PA, physical activity; SRI, sleep-related impairment

Predictors of Sleep in Diabetes – Tables

Table 2 Bivariate correlations between sleep and diabetes-related symptoms and baseline data (*r*)

| | Age | ICO | A1C | Diabetes duration | Fatigue | Diabetes distress | Depressive symptoms | Neuropathic pain | SRI |
|----------------------|-------|------|------|----------------------|---------|----------------------|------------------------|---------------------|--------|
| Sleep Disturbance | -0.12 | 0.11 | 0.09 | 0.11 | 0.56** | 0.38** | 0.50** | 0.50** | 0.72** |
| SRI | -0.09 | 0.12 | 0.05 | 0.13 | 0.67** | 0.32** | 0.52** | 0.36** | 1.0 |

Note. SRI, sleep-related impairment; * $p < 0.05$; ** $p < 0.01$

Table 3 Multiple regression models for sleep disturbance and SRI

| | Coefficient | 95% CI | β | t | p |
|--------------------------------------|-------------|--------------|---------|-------|------------------|
| Sleep disturbance¹ | | | | | |
| Age | -0.05 | -0.24, 0.15 | -0.04 | -0.49 | 0.63 |
| Female gender | 3.27 | 0.13, 6.42 | 0.18 | 2.07 | 0.04 |
| Diabetes duration | 0.06 | -0.15, 0.28 | 0.05 | 0.58 | 0.57 |
| A1C | -0.81 | -1.58, -0.05 | -0.19 | -2.12 | 0.04 |
| Fatigue | 0.35 | 0.13, 0.56 | 0.31 | 3.15 | < 0.01 |
| Depressive symptoms | 0.21 | -0.04, 0.45 | 0.18 | 1.70 | 0.09 |
| Diabetes distress | 0.55 | -1.06, 2.15 | 0.06 | 0.67 | 0.50 |
| Neuropathic pain | 3.07 | 1.56, 4.58 | 0.37 | 4.04 | < 0.01 |
| SRI² | | | | | |
| Age | -0.04 | -0.24, 0.15 | -0.04 | -0.43 | 0.67 |
| Female gender | 1.15 | -1.96, 4.26 | 0.06 | 0.74 | 0.46 |
| Diabetes duration | 0.10 | -0.12, 0.31 | 0.08 | 0.92 | 0.36 |
| A1C | -0.57 | -1.33, 0.18 | -0.13 | -1.51 | 0.14 |
| Fatigue | 0.57 | 0.35, 0.78 | 0.52 | 5.23 | < 0.01 |
| Depressive symptoms | 0.20 | -0.05, 0.44 | 0.17 | 1.61 | 0.11 |
| Diabetes distress | 0.07 | -1.52, 1.66 | < 0.01 | 0.08 | 0.93 |
| Neuropathic pain | 1.43 | -0.07, 2.93 | 0.17 | 1.90 | 0.06 |

Note. SRI, sleep-related impairment

¹Model statistics: $F(8, 79) = 10.67, p < 0.001, R^2 = 0.52$

²Model statistics: $F(8, 79) = 10.60, p < 0.001, R^2 = 0.52$