### Supplementary table 1. Result of SF-36v2 score and comparison of between-groups

| SF36 Subscale | Summary Score | Baseline | 3 months of treatment | 6 months of treatment | 12 months of treatment |
|---------------|---------------|----------|-----------------------|-----------------------|------------------------|
|               |               | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group | Control group | Program group |
|               |               | n=104 | n=69 | t | F | p value | n=66 | n=41 | t | F | p value | n=43 | n=24 | t | F | p value | n=17 | n=9 | t | F | p value |
| PF_N          | 54.8±5.26     | 55.2±3.59 | -0.6 | 171 | 0.547 | 55.3±3.34 | 54±4.96 | 1.579 | 105 | 0.117 | 55.3±4.12 | 54.1±5.25 | 1.067 | 65 | 0.29 | 55.9±2.25 | 54.2±2.55 | 1.748 | 24 | 0.093 |
| RP_N          | 51.6±7.8      | 51.3±8.32 | 0.211 | 171 | 0.833 | 49.8±8.42 | 49.7±9.60 | 0.58 | 105 | 0.954 | 47.8±11.14 | 46±11.34 | 0.634 | 65 | 0.528 | 51.2±5.75 | 46.5±6.80 | 1.718 | 24 | 0.099 |
| BP_N          | 51.1±8.93     | 51.7±8.64 | -0.46 | 171 | 0.646 | 50±9.65 | 46.8±8.82 | 1.073 | 105 | 0.092 | 47.2±10.11 | 50.5±11.18 | -1.22 | 65 | 0.227 | 53.7±7.31 | 47.4±9.77 | 1.847 | 24 | 0.077 |
| GH_N          | 53.4±7.87     | 53.4±8.21 | 0.021 | 171 | 0.983 | 51.6±7.15 | 51.8±8.71 | -0.119 | 105 | 0.905 | 50±7.55 | 50.2±10.24 | -0.67 | 65 | 0.947 | 49.7±7.08 | 49.5±8.96 | 0.03 | 24 | 0.976 |
| VT_N          | 47.9±8.13     | 47.8±9.08 | 0.077 | 171 | 0.938 | 45.5±9.00 | 48±8.71 | -1.389 | 105 | 0.168 | 44±9.78 | 47.2±10.23 | -1.245 | 65 | 0.218 | 46.3±8.78 | 42.3±11.10 | 0.982 | 24 | 0.336 |
| SF_N          | 49.1±9.56     | 51.1±7.88 | -1.53 | 163 | 0.127 | 47.8±9.86 | 47.6±9.01 | 0.131 | 105 | 0.896 | 43.1±13.11 | 42.8±12.75 | 0.09 | 65 | 0.929 | 48.3±9.44 | 47.7±10.24 | -0.04 | 24 | 0.89 |
| RE_N          | 49.6±8.90     | 47.6±8.90 | 1.451 | 171 | 0.149 | 48.3±9.15 | 47.8±10.86 | 0.293 | 105 | 0.77 | 45±12.98 | 43.8±11.35 | 0.406 | 65 | 0.686 | 47.8±8.20 | 42.7±10.36 | 1.371 | 24 | 0.193 |
| MH_N          | 49.1±8.62     | 48.8±9.15 | 0.213 | 171 | 0.832 | 47±8.96 | 46.9±8.78 | 0.044 | 105 | 0.965 | 42.5±11.1 | 44.7±11.29 | -0.765 | 65 | 0.447 | 48.2±7.17 | 46.1±12.82 | 0.487 | 24 | 0.63 |
| PCS           | 56.1±6.41     | 56.3±6.43 | -0.23 | 171 | 0.818 | 56.4±6.91 | 54.4±7.09 | 1.453 | 105 | 0.149 | 57.9±7.80 | 57.2±8.23 | 0.342 | 65 | 0.734 | 57.3±3.06 | 54.6±5.82 | 1.43 | 24 | 0.182 |
| MCS           | 48.5±7.81     | 48.8±8.67 | -0.27 | 171 | 0.79 | 46.2±7.40 | 47.2±8.47 | -0.682 | 105 | 0.497 | 43.3±8.68 | 47.2±9.45 | -1.703 | 65 | 0.093 | 46.5±8.83 | 45.2±11.89 | 0.311 | 24 | 0.758 |
| RCS           | 47.9±9.88     | 47.4±9.86 | 0.335 | 171 | 0.738 | 46.8±10.62 | 46.7±11.16 | 0.03 | 105 | 0.976 | 42.6±15.38 | 40.2±13.82 | 0.648 | 65 | 0.519 | 47.2±8.27 | 43.8±8.06 | 0.78 | 24 | 0.443 |