**Report Supplementary Materials 12**

### List of hypotheses to examine construct validity (known group validity)

Construct validity concerns whether or not a scale is measuring what is stated as the purpose of measurement. Construct validity can be seen as comprising two aspects, internal and external. External construct validity in this study was examined using hypothesis testing to examine whether the scales correlate well with known clinical groups differences. Table 1 Below are the list of hypotheses that should be stated a priori, including the postulated direction.

**Table 1 Proposed hypotheses with postulated direction of correlation to examine ePAQ-VAS external construct validity**

|  |  |  |
| --- | --- | --- |
| Section  | Topic | Direction of scale score  |
| CAD  | Patient presented with stroke compared with patients with no stroke | Scale scores will be higher in patients with stroke |
| CAD | Patient presented with multiple TIAs compared to those with single TIA | Scale scores will be higher in patients with multiple TIAs |
| AAA | Size of the Aneurysm | Scale scores will be higher for patients with larger AAA |
| AAA | Surveillance versus pre-operative patient  | Scale scores will be higher for pre-operative patients |
| PAD | Patients with rest pain compared to those without rest pain | Scale scores will be higher in patients with rest pain |
| PAD | Patients with ulcer with compared to those without ulcer | Scale scores will be higher in patients with PAD and ulcer  |
| VLU | Ulcer recurrence  | Scale scores will be higher in patients with ulcer recurrence  |
| VV | Varicose vein in both legs versus in one leg | Scale scores will be higher in patients with VV in both legs  |
| VV | VLU presence versus no VLU  | Scale scores will be higher in patients with VLU |

**2 Symptom scores at baseline and test-retest for PAD, VLU and VV**

Within the lower limb section there are four scales and these are symptoms of peripheral arterial, symptoms of vascular leg ulcers and symptoms of varicose veins and finally the impact of lower limb vascular disease on the ADL. The test re-test results were calculated for the symptom scale and impact of the lower limb vascular disease on ADL for patients with PAD, VLU and VV separately. For results of PAD, VLU and VV patients test retest survey see table A2-A.

**Table 2 PAD Symptom Scores at baselines and retest**

|  |  |  |
| --- | --- | --- |
|  | Mean  | Standard deviation  |
| Score at baseline  | 46.79 | 27.17 |
| Score at retest  | 46.85 | 28.21 |

**Table 3 Impact of PAD on ADL Scores at baselines and retest**

|  |  |  |
| --- | --- | --- |
|  | Mean  | Standard deviation  |
| Score at baseline  | 48.00 | 31.43 |
| Score at retest  | 43.33 | 30.48 |

**Table 4 VLU Symptom Scores at baselines and retest**

|  |  |  |
| --- | --- | --- |
|  | Mean  | Standard deviation  |
| Score at baseline  | 34.87 | 22.29 |
| Score at retest  | 34.19 | 21.91 |

**Table 5 Impact of VLU on ADL Scores at baselines and retest**

|  |  |  |
| --- | --- | --- |
|  | Mean  | Standard deviation  |
| Score at baseline  | 48.03 | 30.06 |
| Score at retest  | 46.50 | 29.32 |

**Table 6 VV Symptom Scores at baselines and retest**

|  |  |  |
| --- | --- | --- |
|  | Mean  | Standard deviation  |
| Score at baseline  | 36.19 | 22.29 |
| Score at retest  | 36.86 | 21.91 |

**Table 7 Impact of VV on ADL Scores at baselines and retest**

|  |  |  |
| --- | --- | --- |
|  | Mean  | Standard deviation  |
| Score at baseline  | 29.67 | 28.33 |
| Score at retest  | 31.76 | 26.08 |

### Intraclass correlation coefficients for PAD, VLU and VV

**Table 8 Intraclass Correlation Coefficients for PAD**

|  |  |  |
| --- | --- | --- |
| Scale  | Intraclass Correlation Coefficient  | 95% Confidence Interval  |
| PAD symptoms  | 0.983 | 0.97-0.99 |
| Impact of PAD on ADL | 0.976 | 0.94-0.98 |

**Table 9 Intraclass Correlation Coefficients for VLU**

|  |  |  |
| --- | --- | --- |
| Scale  | Intraclass Correlation Coefficient  | 95% Confidence Interval  |
| VLU symptoms  | 0.993 | 0.987-0.993 |
| Impact of VLU on ADL | 0.994 | 0.988-0.99 |

**Table 10 Intraclass Correlation Coefficients for VV**

|  |  |  |
| --- | --- | --- |
| Scale  | Intraclass Correlation Coefficient  | 95% Confidence Interval  |
| VV symptoms  | 0.651 | 0.394-0.799 |
| Impact of VV on ADL | 0.647 | 0.379-0.799 |

### Construct validity – Pearson Correlation coefficients

The external construct validity of the CAD, AAA, PAD, VLU, VV scales in ePAQ-VAS were tested using clinical hypothesis testing and examining this relationship between these hypotheses and the scores from each scale as well as EQ-5D-5L index and the EQ-5D -VAS scores using Pearson correlation. See Tables 11- 15 for CAD, AAA, PAD, VLU and VV

**Table 11 Pearson Correlation Coefficient Index for CAD**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CAD Anxiety  | CAD ADL  | EQ-5D index  | EQ-5D VAS  |
| Patient presented with stroke | -.089 | -0.089 | -0.007 | 0.007 |
| Patient presented with multiple TIAs | -0.105 | 0.094 | 0.120 | 0.023 |

**Table 12 Pearson Correlation Coefficient Index for AAA hypotheses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | AAA Anxiety  | AAA ADL  | EQ-5D index  | EQ-5D VAS  |
| Size of the Aneurysm | *0.234*  | 0.159 | -0.093 | -0.193 |
| Surveillance versus pre-operative patient | *0.158* | *0.116* | -040 | 0.05 |

*Figures in italics are statistically significant correlations.*

**Table 13 Pearson Correlation Coefficient Index for PAD hypotheses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | PAD symptoms  | PAD ADL  | EQ-5D index  | EQ-5D VAS  |
| Rest pain | *0.668* | *0.479* | *-0.492* | *-0.177* |
| Ulcer with PAD symptoms  | 0.101 | *0.153* | *-0.136* | -0.025 |

*Figures in italics are statistically significant correlations.*

**Table 14 Pearson Correlation Coefficient Index for VLU hypotheses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Ulcer symptoms  | Ulcer ADL  | EQ-5D index  | EQ-5D -VAS  |
| Ulcer recurrence  | *0.541* | 0.133 | -0.011 | -0.162 |

*Figures in italics are statistically significant correlations.*

**Table 15 Pearson Correlation Coefficient Index for VV hypothesis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | VV symptoms  | VV ADL  | EQ-5D index  | EQ-5D -VAS  |
| Varicose vein in multiple legs  | *0.500* | 0.068 | *-*0.062 | 0.085 |
| VLU presence  | 0.45 | *-0.215* | *0.036* | *0.132* |

*Figures in italics are statistically significant correlations.*

### Construct validity – Known-group difference Non-parametric correlations

Tables 16 to A.23 pertain to CAD; Tables 24 to 32 to AAA; Tables 33 to 40 PAD; Tables 41 to 45 VLU; Tables 46 to 53 VV.

**Table 16 CAD – Anxiety score for patients with and without stroke**

|  |  |  |
| --- | --- | --- |
|   | Presented with stroke | Anx Score |
| Kendall's tau\_b | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.029 |  |
| Sig. (2-tailed) | . | .811 |  |
| N | 50 | 50 |  |
| Anxiety Score | Correlation Coefficient | -.029 | 1.000 |  |
| Sig. (2-tailed) | .811 | . |  |
| N | 50 | 50 |  |
| Spearman's rho | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.032 |  |
| Sig. (2-tailed) | . | .823 |  |
| N | 50 | 50 |  |
| Anxiety Score | Correlation Coefficient | -.032 | 1.000 |  |
| Sig. (2-tailed) | .823 | . |  |
| N | 50 | 50 |  |

**Table 17 CAD – Symptom score for patients with and without stroke**

|  |  |  |
| --- | --- | --- |
|  | Presented with stroke | SYM Score |
| Kendall's tau\_b | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.035 |
| Sig. (2-tailed) | . | .774 |
| N | 50 | 50 |
| Symptom Score | Correlation Coefficient | -.035 | 1.000 |
| Sig. (2-tailed) | .774 | . |
| N | 50 | 50 |
| Spearman's rho | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.040 |
| Sig. (2-tailed) | . | .781 |
| N | 50 | 50 |
| Symptom Score | Correlation Coefficient | -.040 | 1.000 |
| Sig. (2-tailed) | .781 | . |
| N | 50 | 50 |

**Table 18 CAD –ADL score for patients with and without stroke**

|  |  |  |
| --- | --- | --- |
|  | Presented with stroke | ADL Score |
| Kendall's tau\_b | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.230 |
| Sig. (2-tailed) | . | .058 |
| N | 50 | 50 |
| ADL Score | Correlation Coefficient | -.230 | 1.000 |
| Sig. (2-tailed) | .058 | . |
| N | 50 | 50 |
| Spearman's rho | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.275 |
| Sig. (2-tailed) | . | .053 |
| N | 50 | 50 |
| ADL Score | Correlation Coefficient | -.275 | 1.000 |
| Sig. (2-tailed) | .053 | . |
| N | 50 | 50 |

**Table 19 CAD – EQ-5D index for patients with and without stroke**

|  |  |  |
| --- | --- | --- |
|  | Presented with stroke | EQ5D index |
| Kendall's tau\_b | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.160 |
| Sig. (2-tailed) | . | .174 |
| N | 50 | 50 |
| EQ5D index | Correlation Coefficient | -.160 | 1.000 |
| Sig. (2-tailed) | .174 | . |
| N | 50 | 50 |
| Spearman's rho | Patients stroke v no stroke | Correlation Coefficient | 1.000 | -.197 |
| Sig. (2-tailed) | . | .171 |
| N | 50 | 50 |
| EQ5D index | Correlation Coefficient | -.197 | 1.000 |
| Sig. (2-tailed) | .171 | . |
| N | 50 | 50 |

**Table 20 CAD – EQ-5D VAS for patients with and without stroke**

|  |  |  |
| --- | --- | --- |
|  | Presented with stroke | EQ5D-VAS |
| Kendall's tau\_b | Patient stroke v no stroke  | Correlation Coefficient | 1.000 | -.053 |
| Sig. (2-tailed) | . | .650 |
| N | 50 | 50 |
| EQ-VAS | Correlation Coefficient | -.053 | 1.000 |
| Sig. (2-tailed) | .650 | . |
| N | 50 | 50 |
| Spearman's rho | Patient presented stroke v no stroke | Correlation Coefficient | 1.000 | -.059 |
| Sig. (2-tailed) | . | .684 |
| N | 50 | 50 |
| EQ-VAS | Correlation Coefficient | -.059 | 1.000 |
| Sig. (2-tailed) | .684 | . |
| N | 50 | 50 |

**Table 21 CAD – Anxiety score for patients with multiple TIAs**

|  |  |  |
| --- | --- | --- |
|  | Presented with multiple TIAs | Anx Score |
| Kendall's tau\_b | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.052 |
| Sig. (2-tailed) | . | .642 |
| N | 50 | 50 |
| Anxiety Score | Correlation Coefficient | -.052 | 1.000 |
| Sig. (2-tailed) | .642 | . |
| N | 50 | 50 |
| Spearman's rho | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.064 |
| Sig. (2-tailed) | . | .661 |
| N | 50 | 50 |
| Anxiety Score | Correlation Coefficient | -.064 | 1.000 |
| Sig. (2-tailed) | .661 | . |
| N | 50 | 50 |

**Table 22 CAD – Symptom score for patients with multiple TIAs**

|  |  |  |
| --- | --- | --- |
|  | Presented with multiple TIAs | SYM Score |
| Kendall's tau\_b | Presented with multiple TIAs | Correlation Coefficient | 1.000 | .003 |
| Sig. (2-tailed) | . | .979 |
| N | 50 | 50 |
| SYMPTOM Score | Correlation Coefficient | .003 | 1.000 |
| Sig. (2-tailed) | .979 | . |
| N | 50 | 50 |
| Spearman's rho | Presented with multiple TIAs | Correlation Coefficient | 1.000 | .000 |
| Sig. (2-tailed) | . | 1.000 |
| N | 50 | 50 |
| SYMPTOM Score | Correlation Coefficient | .000 | 1.000 |
| Sig. (2-tailed) | 1.000 | . |
| N | 50 | 50 |

**Table 23 CAD – ADL score for patients with multiple TIAs**

|  |  |  |
| --- | --- | --- |
|  | Presented with multiple TIAs | ADL Score |
| Kendall's tau\_b | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.007 |
| Sig. (2-tailed) | . | .951 |
| N | 50 | 50 |
| ADL Score | Correlation Coefficient | -.007 | 1.000 |
| Sig. (2-tailed) | .951 | . |
| N | 50 | 50 |
| Spearman's rho | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.009 |
| Sig. (2-tailed) | . | .952 |
| N | 50 | 50 |
| ADL Score | Correlation Coefficient | -.009 | 1.000 |
| Sig. (2-tailed) | .952 | . |
| N | 50 | 50 |

**Table 24 AAA – EQ-5D index score for patients with multiple TIAs**

|  |  |  |
| --- | --- | --- |
|  | Presented with multiple TIAs | EQ5D index |
| Kendall's tau\_b | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.204 |
| Sig. (2-tailed) | . | .060 |
| N | 50 | 50 |
| EQ5D index | Correlation Coefficient | -.204 | 1.000 |
| Sig. (2-tailed) | .060 | . |
| N | 50 | 50 |
| Spearman's rho | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.261 |
| Sig. (2-tailed) | . | .067 |
| N | 50 | 50 |
| EQ5D index | Correlation Coefficient | -.261 | 1.000 |
| Sig. (2-tailed) | .067 | . |
| N | 50 | 50 |

**Table 25 AAA – EQ-5D VAS for patients with multiple TIAs**

|  |  |  |
| --- | --- | --- |
|  | Presented with multiple TIAs | EQ5D-VAS |
| Kendall's tau\_b | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.021 |
| Sig. (2-tailed) | . | .848 |
| N | 50 | 50 |
| EQ-VAS | Correlation Coefficient | -.021 | 1.000 |
| Sig. (2-tailed) | .848 | . |
| N | 50 | 50 |
| Spearman's rho | Presented with multiple TIAs | Correlation Coefficient | 1.000 | -.015 |
| Sig. (2-tailed) | . | .919 |
| N | 50 | 50 |
| EQ-VAS | Correlation Coefficient | -.015 | 1.000 |
| Sig. (2-tailed) | .919 | . |
| N | 50 | 50 |

**Table 26 AAA – Size of AAA on AAA ADL score**

|  |  |  |
| --- | --- | --- |
|  | Size of AAA on last scan (cm) | AA ADL Score |
| Kendall's tau\_b | Size of AAA on last scan (cm) | Correlation Coefficient | 1.000 | .060 |
| Sig. (2-tailed) | . | .397 |
| N | 121 | 121 |
| AA ADL Score | Correlation Coefficient | .060 | 1.000 |
| Sig. (2-tailed) | .397 | . |
| N | 121 | 121 |
| Spearman's rho | Size of AAA on last scan (cm) | Correlation Coefficient | 1.000 | .071 |
| Sig. (2-tailed) | . | .440 |
| N | 121 | 121 |
| AA ADL Score | Correlation Coefficient | .071 | 1.000 |
| Sig. (2-tailed) | .440 | . |
| N | 121 | 121 |

|  |  |  |
| --- | --- | --- |
|  | Size of AAA on last scan (cm) | EQ5D-VAS |
| Kendall's tau\_b | Size of AAA on last scan (cm) | Correlation Coefficient | 1.000 | -.106 |
| Sig. (2-tailed) | . | .110 |
| N | 121 | 121 |
| EQ-VAS | Correlation Coefficient | -.106 | 1.000 |
| Sig. (2-tailed) | .110 | . |
| N | 121 | 121 |
| Spearman's rho | Size of AAA on last scan (cm) | Correlation Coefficient | 1.000 | -.147 |
| Sig. (2-tailed) | . | .106 |
| N | 121 | 121 |
| EQ-VAS | Correlation Coefficient | -.147 | 1.000 |
| Sig. (2-tailed) | .106 | . |
| N | 121 | 121 |

**Table 27 AAA – Size of AAA on EQ-5D index**

|  |  |  |
| --- | --- | --- |
|  | Size of AAA on last scan (cm) | EQ Index |
| Kendall's tau\_b | Size of AAA on last scan (cm) | Correlation Coefficient | 1.000 | -.099 |
| Sig. (2-tailed) | . | .139 |
| N | 121 | 121 |
| EQ Index | Correlation Coefficient | -.099 | 1.000 |
| Sig. (2-tailed) | .139 | . |
| N | 121 | 121 |
| Spearman's rho | Size of AAA on last scan (cm) | Correlation Coefficient | 1.000 | -.133 |
| Sig. (2-tailed) | . | .147 |
| N | 121 | 121 |
| EQ Index | Correlation Coefficient | -.133 | 1.000 |
| Sig. (2-tailed) | .147 | . |
| N | 121 | 121 |

**Table 28 AAA – Size of AAA on EQ-5D VAS**

**Table 29 AAA – Surveillance versus pre-operative status on anxiety score**

|  |  |  |
| --- | --- | --- |
|  | Surveillance versus pre-operative patient | Anx Score |
| Kendall's tau\_b | Surveillance versus pre-operative  | Correlation Coefficient | 1.000 | .051 |
| Sig. (2-tailed) | . | .497 |
| N | 121 | 121 |
| Anxiety Score | Correlation Coefficient | .051 | 1.000 |
| Sig. (2-tailed) | .497 | . |
| N | 121 | 121 |
| Spearman's rho | Surveillance versus pre-operative patient | Correlation Coefficient | 1.000 | .068 |
| Sig. (2-tailed) | . | .460 |
| N | 121 | 121 |
| Anxiety Score | Correlation Coefficient | .068 | 1.000 |
| Sig. (2-tailed) | .460 | . |
| N | 121 | 121 |

**Table 30 AAA – Surveillance versus pre-operative status on AA ADL score**

|  |  |  |
| --- | --- | --- |
|  | Surveillance versus pre-operative patient | AA ADL Score |
| Kendall's tau\_b | Surveillance versus pre-operative patient | Correlation Coefficient | 1.000 | .114 |
| Sig. (2-tailed) | . | .146 |
| N | 121 | 121 |
| AA ADL Score | Correlation Coefficient | .114 | 1.000 |
| Sig. (2-tailed) | .146 | . |
| N | 121 | 121 |
| Spearman's rho | Surveillance versus pre-operative patient | Correlation Coefficient | 1.000 | .134 |
| Sig. (2-tailed) | . | .144 |
| N | 121 | 121 |
| AA ADL Score | Correlation Coefficient | .134 | 1.000 |
| Sig. (2-tailed) | .144 | . |
| N | 121 | 121 |

**Table 31 AAA – Surveillance versus pre-operative status on EQ-5D index**

|  |  |  |
| --- | --- | --- |
|  | Surveillance versus pre-operative patient | EQ Index |
| Kendall's tau\_b | Surveillance versus pre-operative patient | Correlation Coefficient | 1.000 | -.092 |
| Sig. (2-tailed) | . | .215 |
| N | 121 | 121 |
| EQ Index | Correlation Coefficient | -.092 | 1.000 |
| Sig. (2-tailed) | .215 | . |
| N | 121 | 121 |
| Spearman's rho | Surveillance versus pre-operative patient | Correlation Coefficient | 1.000 | -.115 |
| Sig. (2-tailed) | . | .207 |
| N | 121 | 121 |
| EQ Index | Correlation Coefficient | -.115 | 1.000 |
| Sig. (2-tailed) | .207 | . |
| N | 121 | 121 |

**Table 32 AAA – Surveillance versus pre-operative status on EQ-5D VAS**

|  |  |  |
| --- | --- | --- |
|  | Surveillance versus pre-operative patient | EQ5D-VAS |
| Kendall's tau\_b | Surveillance versus pre-operative patient | Correlation Coefficient | 1.000 | .052 |
| Sig. (2-tailed) | . | .476 |
| N | 121 | 121 |
| EQ-VAS | Correlation Coefficient | .052 | 1.000 |
| Sig. (2-tailed) | .476 | . |
| N | 121 | 121 |
| Spearman's rho | Surveillance versus pre-operative patient | Correlation Coefficient | 1.000 | .065 |
| Sig. (2-tailed) | . | .476 |
| N | 121 | 121 |
| EQ-VAS | Correlation Coefficient | .065 | 1.000 |
| Sig. (2-tailed) | .476 | . |
| N | 121 | 121 |

**Table 33 PAD – With and without rest pain status on Symptom score**

|  |  |  |
| --- | --- | --- |
|  | Rest pain | Score SYM |
| Kendall's tau\_b | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | .488\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 308 |
| Symptom score | Correlation Coefficient | .488\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 308 | 308 |
| Spearman's rho | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | .597\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 308 |
| Symptom score | Correlation Coefficient | .597\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 308 | 308 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

**Table 34 PAD – With and without rest pain status on ADL score**

|  |  |  |
| --- | --- | --- |
|  | Rest pain | Score ADL |
| Kendall's tau\_b | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | .370\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 308 |
| Score ADL | Correlation Coefficient | .370\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 308 | 308 |
| Spearman's rho | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | .454\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 308 |
| Score ADL | Correlation Coefficient | .454\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 308 | 308 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

**Table 35 PAD – With and without rest pain status on EQ-5D score**

|  |  |  |
| --- | --- | --- |
|  | Rest pain | EQ Index |
| Kendall's tau\_b | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | -.361\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 306 |
| EQ Index | Correlation Coefficient | -.361\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 306 | 306 |
| Spearman's rho | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | -.463\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 306 |
| EQ Index | Correlation Coefficient | -.463\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 306 | 306 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

**Table 36 PAD – With and without rest pain status on EQ-5D VAS**

|  |  |  |
| --- | --- | --- |
|  | Rest pain | EQ5D-VAS |
| Kendall's tau\_b | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | -.215\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 306 |
| EQ5D-VAS | Correlation Coefficient | -.215\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 306 | 306 |
| Spearman's rho | Patients rest pain v. no rest pain | Correlation Coefficient | 1.000 | -.275\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 308 | 306 |
| EQ5D-VAS | Correlation Coefficient | -.275\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 306 | 306 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

**Table 37 PAD – Ulcer presence on Symptom score**

|  |  |  |
| --- | --- | --- |
|  | Ulcer | Score SYM |
| Kendall's tau\_b | Ulcer presence  | Correlation Coefficient | 1.000 | .075 |
| Sig. (2-tailed) | . | .116 |
| N | 308 | 308 |
| Symptom score | Correlation Coefficient | .075 | 1.000 |
| Sig. (2-tailed) | .116 | . |
| N | 308 | 308 |
| Spearman's rho | Ulcer presence  | Correlation Coefficient | 1.000 | .090 |
| Sig. (2-tailed) | . | .116 |
| N | 308 | 308 |
| Symptom score | Correlation Coefficient | .090 | 1.000 |
| Sig. (2-tailed) | .116 | . |
| N | 308 | 308 |

**Table 38 PAD – Ulcer presence on ADL score**

|  |  |  |
| --- | --- | --- |
|  | Ulcer | Score ADL |
| Kendall's tau\_b | Ulcer presence  | Correlation Coefficient | 1.000 | .131\*\* |
| Sig. (2-tailed) | . | .006 |
| N | 308 | 308 |
| Score ADL | Correlation Coefficient | .131\*\* | 1.000 |
| Sig. (2-tailed) | .006 | . |
| N | 308 | 308 |
| Spearman's rho | Ulcer presence  | Correlation Coefficient | 1.000 | .155\*\* |
| Sig. (2-tailed) | . | .006 |
| N | 308 | 308 |
| Score ADL | Correlation Coefficient | .155\*\* | 1.000 |
| Sig. (2-tailed) | .006 | . |
| N | 308 | 308 |

**Table 39 PAD – Ulcer presence on EQ-5D index score**

|  |  |  |
| --- | --- | --- |
|  | Ulcer | EQ Index |
| Kendall's tau\_b | Ulcer presence  | Correlation Coefficient | 1.000 | -.109\* |
| Sig. (2-tailed) | . | .020 |
| N | 308 | 306 |
| EQ Index | Correlation Coefficient | -.109\* | 1.000 |
| Sig. (2-tailed) | .020 | . |
| N | 306 | 306 |
| Spearman's rho | Ulcer presence  | Correlation Coefficient | 1.000 | -.133\* |
| Sig. (2-tailed) | . | .020 |
| N | 308 | 306 |
| EQ Index | Correlation Coefficient | -.133\* | 1.000 |
| Sig. (2-tailed) | .020 | . |
| N | 306 | 306 |
| \*. Correlation is significant at the 0.05 level (2-tailed).**Table 40 PAD – Ulcer presence on EQ-5D VAS** |
|  | Ulcer | EQ5D-VAS |  |
| Kendall's tau\_b | Ulcer presence  | Correlation Coefficient | 1.000 | -.076 |  |
| Sig. (2-tailed) | . | .110 |  |
| N | 308 | 306 |  |
| EQ-VAS | Correlation Coefficient | -.076 | 1.000 |  |
| Sig. (2-tailed) | .110 | . |  |
| N | 306 | 306 |  |
| Spearman's rho | Ulcer presence  | Correlation Coefficient | 1.000 | -.092 |  |
| Sig. (2-tailed) | . | .110 |  |
| N | 308 | 306 |  |
| EQ-VAS | Correlation Coefficient | -.092 | 1.000 |  |
| Sig. (2-tailed) | .110 | . |  |
| N | 306 | 306 |  |

**Table 41 VLU Ulcer recurrence on Symptom score**

|  |  |  |
| --- | --- | --- |
|  | Ulcer recurrence | Sym Ulcer |
| Kendall's tau\_b | Ulcer recurrence | Correlation Coefficient | 1.000 | -.068 |
| Sig. (2-tailed) | . | .329 |
| N | 122 | 122 |
| Symptom Score  | Correlation Coefficient | -.068 | 1.000 |
| Sig. (2-tailed) | .329 | . |
| N | 122 | 122 |
| Spearman's rho | Ulcer recurrence | Correlation Coefficient | 1.000 | -.099 |
| Sig. (2-tailed) | . | .278 |
| N | 122 | 122 |
| Symptom Score  | Correlation Coefficient | -.099 | 1.000 |
| Sig. (2-tailed) | .278 | . |
| N | 122 | 122 |

**Table 42 VLU Ulcer recurrence on Score Ulcer**

|  |  |  |
| --- | --- | --- |
|  | Ulcer recurrence | Score Ulcer |
| Kendall's tau\_b | Ulcer recurrence | Correlation Coefficient | 1.000 | .463\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 122 | 122 |
| Score Ulcer | Correlation Coefficient | .463\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 122 | 122 |
| Spearman's rho | Ulcer recurrence | Correlation Coefficient | 1.000 | .571\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 122 | 122 |
| Score Ulcer | Correlation Coefficient | .571\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 122 | 122 |

**Table 43 VLU Ulcer recurrence on ADL Score**

|  |  |  |
| --- | --- | --- |
|  | Ulcer recurrence | Score ADL |
| Kendall's tau\_b | Ulcer recurrence | Correlation Coefficient | 1.000 | .106 |
| Sig. (2-tailed) | . | .140 |
| N | 122 | 122 |
| Score ADL | Correlation Coefficient | .106 | 1.000 |
| Sig. (2-tailed) | .140 | . |
| N | 122 | 122 |
| Spearman's rho | Ulcer recurrence | Correlation Coefficient | 1.000 | .135 |
| Sig. (2-tailed) | . | .139 |
| N | 122 | 122 |
| Score ADL | Correlation Coefficient | .135 | 1.000 |
| Sig. (2-tailed) | .139 | . |
| N | 122 | 122 |

**Table 44 VLU Ulcer recurrence on EQ-5D index**

|  |  |  |
| --- | --- | --- |
|  | Ulcer recurrence | EQ5D Index |
| Kendall's tau\_b | Ulcer recurrence | Correlation Coefficient | 1.000 | -.031 |
| Sig. (2-tailed) | . | .660 |
| N | 122 | 122 |
| EQ5D Index | Correlation Coefficient | -.031 | 1.000 |
| Sig. (2-tailed) | .660 | . |
| N | 122 | 122 |
| Spearman's rho | Ulcer recurrence | Correlation Coefficient | 1.000 | -.029 |
| Sig. (2-tailed) | . | .751 |
| N | 122 | 122 |
| EQ5D Index | Correlation Coefficient | -.029 | 1.000 |
| Sig. (2-tailed) | .751 | . |
| N | 122 | 122 |

**Table 45 VLU Ulcer recurrence on EQ-5D VAS**

|  |  |  |
| --- | --- | --- |
|  | Ulcer recurrence | EQ5D-VAS |
| Kendall's tau\_b | Ulcer recurrence | Correlation Coefficient | 1.000 | -.157\* |
| Sig. (2-tailed) | . | .026 |
| N | 122 | 122 |
| EQ -VAS | Correlation Coefficient | -.157\* | 1.000 |
| Sig. (2-tailed) | .026 | . |
| N | 122 | 122 |
| Spearman's rho | Ulcer recurrence | Correlation Coefficient | 1.000 | -.209\* |
| Sig. (2-tailed) | . | .021 |
| N | 122 | 122 |
| EQ -VAS | Correlation Coefficient | -.209\* | 1.000 |
| Sig. (2-tailed) | .021 | . |
| N | 122 | 122 |

**Table 46 VV on both versus one leg – impact on Symptom score**

|  |  |  |
| --- | --- | --- |
|  | VV | Score SYM |
| Kendall's tau\_b | VV both legs v. one leg  | Correlation Coefficient | 1.000 | .419\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 248 | 248 |
| Symptom score | Correlation Coefficient | .419\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 248 | 248 |
| Spearman's rho | VV both legs v. one leg | Correlation Coefficient | 1.000 | .513\*\* |
| Sig. (2-tailed) | . | .000 |
| N | 248 | 248 |
| Symptom score | Correlation Coefficient | .513\*\* | 1.000 |
| Sig. (2-tailed) | .000 | . |
| N | 248 | 248 |

**Table 47 VV on both versus one leg – impact on ADL score**

|  |  |  |
| --- | --- | --- |
|  | VV | Score ADL |
| Kendall's tau\_b | VV both legs v. one leg | Correlation Coefficient | 1.000 | .076 |
| Sig. (2-tailed) | . | .140 |
| N | 248 | 248 |
| Score ADL | Correlation Coefficient | .076 | 1.000 |
| Sig. (2-tailed) | .140 | . |
| N | 248 | 248 |
| Spearman's rho | VV both legs v. one leg | Correlation Coefficient | 1.000 | .093 |
| Sig. (2-tailed) | . | .145 |
| N | 248 | 248 |
| Score ADL | Correlation Coefficient | .093 | 1.000 |
| Sig. (2-tailed) | .145 | . |
| N | 248 | 248 |

**Table 48 VV on both versus one leg – impact on EQ-5D index**

|  |  |  |
| --- | --- | --- |
|  | VV | EQ Index |
| Kendall's tau\_b | VV both legs v. one leg | Correlation Coefficient | 1.000 | .043 |
| Sig. (2-tailed) | . | .397 |
| N | 248 | 248 |
| EQ Index | Correlation Coefficient | .043 | 1.000 |
| Sig. (2-tailed) | .397 | . |
| N | 248 | 248 |
| Spearman's rho | VV both legs v. one leg | Correlation Coefficient | 1.000 | .054 |
| Sig. (2-tailed) | . | .399 |
| N | 248 | 248 |
| EQ Index | Correlation Coefficient | .054 | 1.000 |
| Sig. (2-tailed) | .399 | . |
| N | 248 | 248 |

**Table 49 VV on both versus one leg – impact on EQ-5D VAS**

|  |  |  |
| --- | --- | --- |
|  | VV | EQ5D-VAS |
| Kendall's tau\_b | VV both legs v. one leg | Correlation Coefficient | 1.000 | .115\* |
| Sig. (2-tailed) | . | .022 |
| N | 248 | 246 |
| EQ -VAS | Correlation Coefficient | .115\* | 1.000 |
| Sig. (2-tailed) | .022 | . |
| N | 246 | 246 |
| Spearman's rho | VV both legs v. one leg | Correlation Coefficient | 1.000 | .143\* |
| Sig. (2-tailed) | . | .025 |
| N | 248 | 246 |
| EQ -VAS | Correlation Coefficient | .143\* | 1.000 |
| Sig. (2-tailed) | .025 | . |
| N | 246 | 246 |
| \*. Correlation is significant at the 0.05 level (2-tailed). |

**Table 50 VV ulcer presence impact on Symptom Score**

|  |  |  |
| --- | --- | --- |
|  | Ulcer presence  | Score SYM |
| Kendall's tau\_b | Ulcer presence  | Correlation Coefficient | 1.000 | .020 |
| Sig. (2-tailed) | . | .700 |
| N | 248 | 248 |
| VV Symptom score | Correlation Coefficient | .020 | 1.000 |
| Sig. (2-tailed) | .700 | . |
| N | 248 | 248 |
| Spearman's rho | Ulcer presence | Correlation Coefficient | 1.000 | .025 |
| Sig. (2-tailed) | . | .691 |
| N | 248 | 248 |
| VV Symptom score | Correlation Coefficient | .025 | 1.000 |
| Sig. (2-tailed) | .691 | . |
| N | 248 | 248 |

**Table 51 VV ulcer presence impact on ADL Score**

|  |  |  |
| --- | --- | --- |
|  | Ulcer presence | Score ADL |
| Kendall's tau\_b | Ulcer presence | Correlation Coefficient | 1.000 | -.069 |
| Sig. (2-tailed) | . | .185 |
| N | 248 | 248 |
| Score ADL | Correlation Coefficient | -.069 | 1.000 |
| Sig. (2-tailed) | .185 | . |
| N | 248 | 248 |
| Spearman's rho | Ulcer presence | Correlation Coefficient | 1.000 | -.087 |
| Sig. (2-tailed) | . | .172 |
| N | 248 | 248 |
| Score ADL | Correlation Coefficient | -.087 | 1.000 |
| Sig. (2-tailed) | .172 | . |
| N | 248 | 248 |

**Table 52 VV ulcer presence impact on EQ-5D index**

|  |  |  |
| --- | --- | --- |
|  | Ulcer presence  | EQ Index |
| Kendall's tau\_b | Ulcer presence | Correlation Coefficient | 1.000 | .097 |
| Sig. (2-tailed) | . | .060 |
| N | 248 | 248 |
| EQ Index | Correlation Coefficient | .097 | 1.000 |
| Sig. (2-tailed) | .060 | . |
| N | 248 | 248 |
| Spearman's rho | Ulcer presence | Correlation Coefficient | 1.000 | .122 |
| Sig. (2-tailed) | . | .056 |
| N | 248 | 248 |
| EQ Index | Correlation Coefficient | .122 | 1.000 |
| Sig. (2-tailed) | .056 | . |
| N | 248 | 248 |

**Table 53 VV ulcer presence impact on EQ-5D VAS**

|  |  |  |
| --- | --- | --- |
|  | Ulcer presence | EQ -VAS |
| Kendall's tau\_b | Ulcer presence | Correlation Coefficient | 1.000 | -.022 |
| Sig. (2-tailed) | . | .667 |
| N | 248 | 246 |
| EQ -VAS | Correlation Coefficient | -.022 | 1.000 |
| Sig. (2-tailed) | .667 | . |
| N | 246 | 246 |
| Spearman's rho | Ulcer presence | Correlation Coefficient | 1.000 | -.030 |
| Sig. (2-tailed) | . | .638 |
| N | 248 | 246 |
| EQ -VAS | Correlation Coefficient | -.030 | 1.000 |
| Sig. (2-tailed) | .638 | . |
| N | 246 | 246 |

### Responsiveness – further tests

This section presents further statistical methods of measuring responsiveness including one-way ANOVA, paired t-tests and Bland-Altman techniques.

The results of the responsiveness surveys suggest that the scales measuring symptoms of PAD and VV symptoms as well as the lower limb ADL scale are responsiveness to clinically relevant change.

**Table 54 PAD responsiveness paired t-tests for Symptom and ADL scores**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Mean | N | Std. Deviation | Std. Error Mean |  |
| Pair 1 | Symptom score at baseline  | 67.59 | 37 | 26.70 | 4.22 |  |
| Symptom score post intervention  | 49.07 | 37 | 24.58 | 3.89 |  |
| Pair 2 | Score ADL at baseline  | 67.50 | 37 | 28.33 | 4.48 |  |
| Score ADL post intervention | 43.33 | 37 | 26.15 | 4.14 |  |
|  | Paired Differences |
| Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |  |
| Lower | Upper |  |
| Pair 1 | Symptom score at baseline - Symptom score post intervention | 18.52 | 24.88 | 3.93 | 10.56 | 26.48 |  |
| Pair 2 | Score ADL at baseline - Score ADL post intervention | 24.17 | 34.08 | 5.39 | 13.27 | 35.07 |  |

**Table 55 PAD responsiveness one-way ANOVA test – Symptom Score**

|  |  |
| --- | --- |
|  | Tests of Between-Subjects Effects |
|  | Dependent Variable: Score SYMP  |
|  | Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |
|  | Corrected Model | 22702a | 6 | 3783 | 145.6 | .000 | .964 |  |
|  | Intercept | 86422 | 1 | 86422 | 3326.5 | .000 | .990 |  |
|  | Symptom score  | 22702 | 6 | 3783 | 145.6 | .000 | .964 |  |
|  | Error | 857 | 33 | 26 |  |  |  |  |
|  | Total | 119890 | 40 |  |  |  |  |  |
|  | Corrected Total | 23560 | 39 |  |  |  |  |  |
| **Table 55 PAD responsiveness one-way ANOVA test – ADL Score** |  |
| Tests of Between-Subjects EffectsDependent Variable: Score ADL Source Type III Sum of Squares df Mean Square F Sig. Partial Eta SquaredCorrected Model 22556a 5 4511 37 .000 .846Intercept 72900 1 72900 603 .000 .947ScoreADL 22556 5 4511 37 .000 .846Error 4111 34 120 Total 101778 40 Corrected Total 26667 39   **Table 56 VV responsiveness paired t-tests for Symptom and ADL scores**  **Paired Samples Test**Paired Differences Mean Std. Deviation Std. Error Mean 95% Confidence Interval of the Difference Lower UpperPair 1 Symptom score at baseline - Symptom score post intervention 22.92 14.31 1.95 19.01 26.82Pair 2 Score ADL at baseline - Score ADL post intervention 18.89 24.08 3.28 12.32 25.46**Paired Samples Statistics**Mean N Std. Deviation Std. Error MeanPair 1 Symptom score at baseline 38.35 54 15.41 2.10 Symptom score post intervention 15.43 54 9.00 1.22Pair 2 Score ADL at baseline 22.96 54 23.15 3.15 Score ADL post intervention 4.07 54 7.71 1.05**Table 57 VV responsiveness one-way ANOVA test – ADLR Score****Table 58 VV responsiveness one-way ANOVA test – ADLR Score**Tests of Between-Subjects EffectsDependent Variable: Score SYMR Source Type III Sum of Squares df Mean Square F Sig. Partial Eta SquaredCorrected Model 1474a 13 113 1.61 .123 .343Intercept 8718 1 8718 123.7 .000 .756Symptom score 1474 13 113 1.61 .123 .343Error 2819 40 70 Total 17153 54 Corrected Total 4293 53 ests of Between-Subjects EffectsDependent Variable: Score ADLR Source Type III Sum of Squares df Mean Square F Sig. Partial Eta SquaredCorrected Model 806a 10 81 1.48 .181 .256Intercept 479 1 479 8.80 .005 .170Score ADL 806 10 81 1.48 .181 .256Error 2342 43 54 Total 4044 54 Corrected Total 3148 53  7 Responsiveness – Bland Altman plots  |

 **Fig 1 Bland Altman plot – PAD Symptom Score**



**Fig 2 Bland Altman plot – PAD ADL score**



**Fig 3 Bland Altman plot – VV Symptom score**

## Picture 8

**Fig 4 Bland Altman plot – VV ADL score**

