Supplementary Material II

Formulas for the Calculation of the Pulmonary Embolism Quality of Life (PEmb-QoL) questionnaire

Frequency of complaints (Dimension 1)

The transformation from n_points} to the ratio $100-\%$ was done using the following formula:

$$100 - \% = 100 - \frac{n_{points} - min_{n_{points}} + n_{miss} \cdot min_{point}}{\frac{max_{n_{points}} - min_{n_{points}}}{100} - \frac{max_{point} - min_{point}}{100} \cdot n_{miss}}$$

$$= 100 - \frac{n_{points} - 8 + n_{miss} \cdot min_{point}}{0.32 - 0.04 \cdot n_{miss}}$$

Limitation daily life (Dimension 4)

The transformation from n_{points} to the ratio $100-\%$ was done using the following formula (if the first question was = 0 or missing):

$$100 - \% = 100 - \frac{n_{points} - min_{n_{points}} + n_{miss} \cdot min_{point}}{\frac{max_{n_{points}} - min_{n_{points}}}{100} - \frac{max_{point} - min_{point}}{100} \cdot n_{miss}}$$

$$= 100 - \frac{n_{points} - 12 + n_{miss} \cdot min_{point}}{0.24 - 0.02 \cdot n_{miss}}$$

The transformation from n_points to the ratio $100-\%$ was done using the following formula (if the first question was > 0):

$$100 - \% = 100 - \frac{n_{points} - min_{n_{points}} + n_{miss} \cdot min_{point}}{\frac{max_{n_{points}} - min_{n_{points}}}{100} - \frac{max_{point} - min_{point}}{100} \cdot n_{miss}}$$

$$= 100 - \frac{n_{points} - 13 + n_{miss}}{0.26 - 0.02 \cdot n_{miss}}$$

Work-related problems (Dimension 5)

$$100 - \% = 100 - \frac{n_{points} - min_{n_{points}} + n_{miss} \cdot min_{point}}{\frac{max_{n_{points}} - min_{n_{points}}}{100} - \frac{max_{point} - min_{point}}{100} \cdot n_{miss}}$$

$$= 100 - \frac{n_{points} - 4 + n_{miss} \cdot min_{point}}{0.04 - 1 \cdot n_{miss}}$$

Social limitations (Dimension 6)

1=0% → 5=100%

Intensity of complaints (Dimensions 7-8)

The transformation from n_points to the ratio % was done using the following formula:

$$\% = \frac{n_{points} - min_{n_{points}} + n_{miss} \cdot min_{point}}{\frac{max_{n_{points}} - min_{n_{points}}}{100} - \frac{max_{point} - min_{point}}{100} \cdot n_{miss}}$$

$$= \frac{n_{points} - 2 + n_{miss} \cdot min_{point}}{0.100 - 0.05 \cdot n_{miss}}$$

Emotional complaints (Dimension 9)

The transformation from n_points to the ratio 100−% was done using the following formula:

$$100 - \% = 100 - \frac{n_{points} - min_{n_{points}} + n_{miss} \cdot min_{point}}{\frac{max_{n_{points}} - min_{n_{points}}}{100} - \frac{max_{point} - min_{point}}{100} \cdot n_{miss}}$$

$$= 100 - \frac{n_{points} - 10 + n_{miss} \cdot min_{point}}{0.5 - 0.05 \cdot n_{miss}}$$

with the following notation:

- n_{points}: sum of points over all items per patient
- n_{miss}: number of missing items
- $max_{n_{points}}$: maximal possible sum over all items

- $min_{n_{points}}$: minimal possible sum over all items
- max_{point}: maximal possible value per item
- min_{point}: minimal possible value per item

Total

For the present analysis, the specific dimensions are are weighted based on their number of items. The number of items per dimension is distibuted as follows:

- frequency of complaints (foc): 8
- limitations of activity in daily life (adl): 12 or 13 (depending on the value of 'I do not work')
- work-related problems (wrp): 4
- social limitation (sl): 1
- intensity of problems (iop): 2
- emotional complaints (ep): 10

resulting in a total of 37 or 38 items over all six dimensions. For calculation a total of 37.5 items is used as the number of 12 or 13 items in the adl-dimension is almost 50:50. The total score is then calculated as follows:

$$\%_{total}^{*} = \frac{\%_{foc}^{*} \cdot 8}{37.5} + \frac{\%_{adl}^{*} \cdot 12.5}{37.5} + \frac{\%_{wrp}^{*} \cdot 4}{37.5} + \frac{\%_{sl}^{*} \cdot 1}{37.5} + \frac{\%_{iop}^{*} \cdot 2}{37.5} + \frac{\%_{ep}^{*} \cdot 10}{37.5}$$

*1-% ratio

Multiple imputation (MCMC, assuming all dimensions have a joint multivariate normal distribution) was performed if a dimension was completely missing. The number of missing dimensions was 3.6%.