TIME TRADE-OFF MODELLING OF HEALTH UTILITY VALUES FOR MENOPAUSAL SYMPTOMS AND THEIR TREATMENT

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OBJECTIVE

- Increased attention has been given to women’s Health-Related Quality of Life (HRQoL) impaired by various symptoms of this transition in the past years (Hartemann K, 2012). The objective of the present study is to estimate women’s willingness to give away months of life (time-trade-off [TTO]) for relief of those symptoms and to convert these into utility values for menopause-specific disturbances. The utility values can be used to convert this into a HRQoL index for treatment evaluation in clinical studies.

METHODS

- A German version of the QualiPause Inventory (QPI-7D; Zsollner YK et al 2001) was used to assess the severity of the following seven menopause-specific symptoms on a three-stage rating scale (“none-moderate-severe”):
  - Hot flashes/sweating
  - Aching joints/muscles
  - Anxious/frightened feelings
  - Breast tenderness
  - Irregular bleeding
  - Vaginal dryness
  - Undesirable signs of hair and skin

- The presence of overlapping symptoms was assessed and taken into account when functions were applied to estimate utility values. The utility values can be used to derive a TTO technique was applied to estimate the utilities of seven symptoms caused by menopause impairments. Health states were being estimated for patients participating in a mobile computer screen (see Chart 6), and they were asked to express the willingness to give away months/year of their life for the relief of the symptoms, using time-valued graphical display controls visible on the computer screen.

- Logistic regression and Bayesian regression methods were used to estimate the utility values.

RESULTS

- Respondents: 478 respondents participated in the study. The characteristics of the sample are as follows:
  - Age range from 45 to 60 years with increasing frequency in higher age categories.
  - Most of the participants perceived their health as good or fair, only a few of them as poor (2.3%).
  - 29.5% of the participants reported irregular bleeding and 57.5% no bleeding. 13% had regular bleeding.

- Menopause-Specific Symptoms: Chart 2 gives an overview of the frequencies of moderate and severe symptoms. “Hot flashes” were mentioned most often, followed by “Breast tenderness.” “Anxious/frightened feelings” were reported less frequently.

- Assigning Life Months to Relief of Menopause-Specific Symptoms and Computing Utility Values: With the TTO technique, 4 or more episodes a week of the relief of symptoms can range between 0 and (maximum) 132 months or 11 years. A median of 12 months of months was observed. 25% of the women were willing to give away more than 45 months, 5% more than 100 months and 1% even 120 months, or more.

- Using the methods of modelling described above (logistic regression and Bayesian statistics) utility values were calculated for the seven symptoms (see Chart 3). For the relief of “Anxious/frightened feelings – 4 or more times a week,” the utility value is 0.34 which is equivalent for giving away 18.5 months. If “Anxious/frightened feelings occur only 1-3 times a week,” the utility value for relief would be 0.12 which means that the women would be willing to give away 15.0 months.

- This information can also be used to rank the importance of the seven complaints (summarized by the length of the bars in Chart 3): The perception of anxious/frightening feelings got the first rank of impact, followed by aching joints/muscles, breast tenderness, hot flashes, osmetic signs, vaginal dryness, and finally breast complaint (see Chart 3).

- The utility values represent an additive model, i.e. the values of the seven complaints can be added up to provide an individual sum score. The score 1 would be equal to readiness to give away 132 months (11 years) of life and the score 0 means lacking willingness to give away any lifetime for changes of menopause-specific HRQoL.

CONCLUSIONS

- TTO techniques can be used to valuate relief of menopausal symptoms in relation to health status. The condition-specific health states based on the original symptoms scale QPI-7D were transformed into a HRQoL index instrument valuating menopausal symptoms and/or possible effects of hormone therapy.

- The study has shown that subjectively perceived menopausal symptoms have a significant impact on HRQoL, the preference-based index instrument generated can be used for economic assessment within clinical trials.