Comparison of generic and disease specific quality of life measures in chronic obstructive pulmonary disease

Tamás Agh MD**, András Inotai PhD†, Ágnes Mészáros PhD†
‡ University Pharmacy Department of Pharmacy Administration, Semmelweis University, Budapest, Hungary
*aghtamas@t-email.hu

Background and Aim

- Chronic obstructive pulmonary disease (COPD) has a great impact on patient’s health-related quality of life (HRQoL).
- The aims of this study were: (1) to assess the generic and disease specific HRQoL of COPD patients; (2) to evaluate the influence of age and lung function on the patient’s HRQoL.

Methods

- A cross-sectional study was carried out between March and November 2009 in a Hungarian outpatient clinic. The study was conducted with the authorization of the Hungarian Scientific Health Council-Ethics Committee.
- Individuals that were included in this study were diagnosed with COPD, they were over 40 years of age. Patients were excluded, if they had a history of asthma, allergic rhinitis, lung operation or other respiratory disease; had a serious concomitant disease: serious heart failure, serious liver or renal failure; had acute coronary syndrome or acute cerebrovascular disease in the last three months.
- In this observational, cross-sectional study the following information was obtained: age, lung function (post-bronchodilator forced expiratory volume in one second [FEV1]) and HRQoL (generic: EuroQol five-dimension questionnaire [EQ-SD])³, disease specific: St. George’s Respiratory Questionnaire (SGRQ)⁴.
- The statistical software Statistica 8 was used for the statistical analyses. The relationship between HRQoL, age and FEV1, was evaluated using Pearson’s correlation. Multiple linear regression model was also performed to analyze the combined effect of age and FEV1 on the patient’s HRQoL.

Results

- 227 patients were included at baseline, 170 of them completed the study. The mean age of the group was 63.83 years (SD=11.24). There were more female (58.2%) than male patients among the respondents.
- The mean FEV1 was 64.21 (SD=17.34).
- The mean EQ-SD index score was 0.55 (SD=0.21), the mean SGRQ total score was 56.22 (SD=19.19), the mean SGRQ symptoms score was 55.22 (SD=20.48), the mean SGRQ activity score was 65.09 (SD=19.01) and the mean SGRQ impacts score was 51.5 (SD=16.9).
- Both generic and disease-specific HRQoL were related with age and lung function (Table 1).
- The multiple linear regression model (Table 2) was successfully applied to describe the effect of age and FEV1 on the patient’s HRQoL measured by either EQ-SD (R²=0.47) (Figure 1.) or SGRQ (R²=0.64) (Figure 2.).
- There was a strong correlation between EQ-SD index and SGRQ total score (Table 1.).

Conclusions

- Our results confirm that COPD impairs patients’ HRQoL markedly.
- HRQoL measurement may be used as a non-invasive patient-centered monitoring system in the management of COPD.
- SGRQ and EQ-SD appears to be reliable and valid for the assessment of HRQoL in COPD.
- Due to the simplicity of EQ-SD, the use of this instrument could be recommended within everyday clinical practice.

References:

1. Maureen PM H. et al.: Does Quality of Life of COPD Patients as Measured by the Generic EuroQol Five-Dimension Questionnaire Differentiate Between COPD Severity Stages?. Chest 2006; 130:1117-1122.
3. – http://www.euroqol.org/
4. – http://www.healthstatus.sgsu.ac.uk/

Table 1. Pearson’s correlation coefficients between EQ-SD index, SGRQ total score, age and FEV1

<table>
<thead>
<tr>
<th>EQ-SD index</th>
<th>Age</th>
<th>FEV1</th>
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<tbody>
<tr>
<td>EQ-SD index</td>
<td>0.594</td>
<td>0.288</td>
</tr>
<tr>
<td>SGRQ total score</td>
<td>-0.756</td>
<td>0.664</td>
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Table 2. Multiple linear regressions with EQ-SD index and SGRQ total score as dependent variables and age, FEV1 as independent variables

Figure 1. The effect of age and FEV1 on patient’s HRQoL measured by EQ-SD

Figure 2. The effect of age and FEV1 on patient’s HRQoL measured by SGRQ