

(ORAL PRESENTATION) A SYMPTOM INDEX FOR CANCER PATIENTS BASED ON THE QLQ-C30

Francesca Martinelli, Chantal Quinten, John Maringwa, Corneel Coens, Quality of Life, EORTC, Brussels, Belgium, Charles Cleeland, Symptom Research, MD Anderson Cancer Center, Houston, Texas, Henning Flechtner, Child and Adolescent Psychiatry and Psychotherapy, University of Magdeburg, Magdeburg, Germany, Carolyn Gotay, School of Population and Public Health, University of British Columbia, Vancouver, Canada, Eva Greimel, Obstetrics and Gynecology, Medical University Graz, Graz, Austria, Madeleine King, Psycho-oncology Co-operative Research Group, University of Sydney, Sydney, Australia, Tito Mendoza, Toru Okuyama, Symptom Research, MD Anderson Cancer Center, Houston, Texas, David Osoba, Quality of Life, Quality of Life Consulting, West Vancouver, Canada, Bryce Reeve, Cancer Control and Population Science, National Cancer Institute, Bethesda, Maryland, Jolie Ringash, The Princess Margaret Hospital, University of Toronto, Toronto, Canada, Joseph Schmucker-Von Koch, Medical Ethics, University of Regensburg, Regensburg, Germany, Qiuling Shi, Symptom Research, MD Anderson Cancer Center, Houston, Texas, Martin Taphoorn, Neurology, Medical Centre Haaglanden, The Hague, The Netherlands, Xin Wang, Symptom Research, MD Anderson Cancer Center, Houston, Texas, Joachim Weis, Psychooncology, University of Freiburg, Freiburg, Germany, Young Yun, Quality of Cancer Care Branch, National Cancer Center, Goyang, Korea, Andrew Bottomley, Quality of Life, EORTC, Brussels, Belgium

AIMS: The aim of this study was to construct a clinically-relevant symptom index for cancer patients from the EORTC QLQ-C30. **METHODS:** The factor structure of 17 symptom-related items from the QLQ-C30 was retrospectively explored in 2 MD Anderson datasets: N=252 Japanese cancer patients (J) and N=177 Korean cancer patients (K). QLQ-C30 and MD Anderson Symptom Inventory (MDASI) data were available for all patients. The "square root of the off-diagonal elements of the residual matrix" was used to select factors, and items with loadings above 0.5 on selected factors were used to build the index. The reliability of the index was measured with Cronbach's alpha (α). Student's t-test was used to compare index scores between subgroups of patients by metastatic status (no vs yes) and ECOG performance status (PS, 0-1 vs 2-3-4). Concurrent validity was assessed by computing Pearson's correlation coefficient (r) between the index and MDASI items. An external pooled dataset including N=5302 cancer patients from 32 countries who participated in EORTC clinical trials was used to assess reproducibility and generalizability of the findings. **RESULTS:** 11 items met selection criteria and were summed to construct the index: pain, need to rest, weakness, lack of appetite, nausea, vomiting, tiredness, difficulty concentrating, worry, irritability and depression. High reliability ($\alpha=0.86$ for the J dataset, $\alpha=0.91$ for the K dataset) and ability to discriminate by PS (J, $p<0.0001$; K, $p<0.0001$) were seen. The index could discriminate by metastatic status in the J patients only ($p<0.0005$). Correlations with most MDASI items were high: $r=0.55-0.75$ for the J dataset and $0.54-0.80$ for the K dataset. In the external EORTC dataset, the index showed high reliability ($\alpha=0.86$) and was able to discriminate patients by metastatic status ($p<0.0001$) and WHO PS ($p<0.0001$). **CONCLUSIONS:** A brief, reliable and valid symptom index can be derived from the QLQ-C30 and used in analysis of clinical trials. Additional research is planned to understand why some symptoms did not appear in the index and how those symptoms should be assessed.