

Minimal Clinically Meaningful Differences for the EORTC QLQ-C30 and EORTC QLQ-BN20 Scales in Brain Cancer Patients

J. Maringwa, C. Quinten, M. King, J. Ringash, D. Osoba, C. Coens, F. Martinelli, B. B. Reeve, C. Gotay, E. Greimel, H. Flechtner, C. S. Cleeland, J. Schmucker-Von Koch, J. Weis, M. J. Van Den Bent, R. Stupp, M. J. Taphoorn, A. Bottomley

Abstract

Objective: The aim of this study was to determine the smallest changes in health-related quality of life (HRQOL) scores in the European Organization for Research and Treatment of Cancer quality of life questionnaire (EORTC QLQ-C30) and the EORTC Brain Cancer Module (QLQ-BN20), which could be considered as clinically meaningful in brain cancer patients.

Methods: World Health Organization (WHO) performance status (PS) and the Mini Mental State Examination (MMSE) were used as clinical anchors to determine minimal clinically important differences (MCID) in HRQOL change scores (range 0 – 100) in the EORTC QLQ-C30 and QLQ-BN20. Anchor-based MCID estimates less than 0.2SD (small effect) were not recommended for interpretation. Other selected distribution-based methods were also used for comparison purposes.

Results: Based on WHO PS, our findings support the following whole number estimates of the MCID for improvement and deterioration respectively: physical functioning (6, 9), role functioning (14, 12), cognitive functioning (8, 8), global health status (7, 4*), fatigue (12, 9) and motor dysfunction (4*, 5). Anchoring with MMSE, cognitive functioning MCID estimates for improvement and deterioration were (11, 2*) and those for communication deficit were (9, 7). The estimates with asterisks were less than the set 0.2 SD threshold and are therefore not recommended for interpretation. Our MCID estimates therefore range from 5-14.

Conclusion: These estimates can help clinicians to evaluate changes in HRQOL over time and, in conjunction with other measures of efficacy, help to assess the value of a health care intervention or to compare treatments. Furthermore, the estimates can be useful in determining sample sizes in the design of future clinical trials.