**Supplementary Material 2**

**The Conception, Content Validation, and Test-retest Reliability of the Questionnaire for Screen Time of Adolescents (QueST)**

**Application of the Consensus-Based Standards for the Selection of Health Measurement Instruments (COSMIN) checklist (Mokkink et al., 2010) on the QueST**

**STEP 1: Evaluated measurement properties in the article:**

A. Internal consistency

* **B. Reliability**
* **C. Measurement error**
* **D. Content validity (including face validity)**

E. Construct validity/structural validity

F. hypotheses-testing

G. Cross-cultural validity

H. Criterion validity

I. Responsiveness

J. Interpretability

**STEP 2: Are Item Response Theory methods used in the article?**

* **No.**

**STEP 3: Complete the corresponding boxes marked in step 1.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Box B. Reliability: relative measures (including test-retest reliability, inter-rater reliability and intra-rater reliability)** | | | | | |
| *Design requirements* | **Yes** | **No** | **NA** | | **?** |
| 1. Was the percentage of missing items given? | **x** |  |  | |  |
| 2. Was there a description of how missing items were handled? | **x** |  |  | |  |
| 3. Was the sample size included in the analysis adequate? | **x** |  |  | |  |
| 4. Were at least two measurements available? | **x** |  |  | |  |
| 5. Were the administrations independent? | **x** |  |  | |  |
| 6. Was the time interval stated? | **x** |  |  | |  |
| 7. Were patients stable in the interim period on the construct to be measured? | **x** |  |  | |  |
| 8. Was the time interval appropriate? | **x** |  |  | |  |
| 9. Were the test conditions similar for both measurements? e.g. type of administration, environment, instructions | **x** |  |  | |  |
| 10. Were there any important flaws in the design or methods of the study? |  | **x** |  | |  |
| *Statistical methods* | | | | | |
| 11. for continuous scores: Was an intraclass correlation coefficient (ICC) calculated? | **x** |  |  | |  |
| 12. for dichotomous/nominal/ordinal scores: Was kappa calculated? |  |  | **x** | |  |
| 13. for ordinal scores: Was a weighted kappa calculated? |  |  | **x** | |  |
| 14. for ordinal scores: Was the weighting scheme described? e.g. linear, quadratic |  |  | **x** | |  |
|  |  |  |  | |  |
| **Box C. Measurement error: absolute measures** |  |  |  | |  |
| 1. Was the percentage of missing items given? | **x** |  |  | |  |
| 2. Was there a description of how missing items were handled? | **x** |  |  | |  |
| 3. Was the sample size included in the analysis adequate? | **x** |  |  | |  |
| 4. Were at least two measurements available? | **x** |  |  | |  |
| 5. Were the administrations independent? | **x** |  |  | |  |
| 6. Was the time interval stated? | **x** |  |  | |  |
| 7. Were patients stable in the interim period on the construct to be measured? | **x** |  |  | |  |
| 8. Was the time interval appropriate? | **x** |  |  | |  |
| 9. Were the test conditions similar for both measurements? e.g. type of administration, environment, instructions | **x** |  |  | |  |
| 10. Were there any important flaws in the design or methods of the study? |  | **x** |  | |  |
| *Statistical methods* |  |  |  | |  |
| 11. for CTT: Was the SEM, SDC or LoA calculated? | **x** |  |  | |  |
| **Box D. Content validity (including face validity)** |  |  |  |
| *General requirements* | **Yes** | **No** | **?** |
| 1. Was there an assessment of whether all items refer to relevant aspects of the construct to be measured? | **x** |  |  |
| 2. Was there an assessment of whether all items are relevant for the study population? (e.g. age, gender, disease characteristics, country, setting) | **x** |  |  |
| 3. Was there an assessment of whether all items are relevant for the purpose of the measurement instrument? (discriminative, evaluative, and/or predictive) | **x** |  |  |
| 4. Was there an assessment of whether all items together comprehensively reflect the construct to be measured? | **x** |  |  |
| 5. Were there any important flaws in the design or methods of the study? | **x** (the students who reviewed the QueST reflect a convenience sample) |  |  |

**STEP 4: Complete the Generalisability box for each property marked in Step 1.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **B. Reliability: Generalisability box** |  |  |  |  |
| *Was the sample in which the Health‐Related Patient‐Reported Outcomes (HR‐PROs) instrument was evaluated adequately described? In terms of:* | **Yes** | **No** | **NA** | **?** |
| 1. median or mean age (with standard deviation or range)? | **x** |  |  |  |
| 2. distribution of sex? | **x** |  |  |  |
| 3. important disease characteristics (e.g. severity, status, duration) and description of treatment? |  |  | **x** |  |
| 4. setting(s) in which the study was conducted? e.g. general population, primary care or hospital/rehabilitation care | **x** |  |  |  |
| 5. countries in which the study was conducted? |  |  | **x** |  |
| 6. language in which the HR-PROs instrument was evaluated? | **x** |  |  |  |
| 7. Was the method used to select patients adequately described? e.g. convenience, consecutive, or random | **x** |  |  |  |
| 8. Was the percentage of missing responses (response rate) acceptable? | **x** |  |  |  |
| **C. Measurement error: Generalisability box** |  |  |  |  |
| *Was the sample in which the Health‐Related Patient‐Reported Outcomes (HR‐PROs) instrument was evaluated adequately described? In terms of:* | **Yes** | **No** | **NA** | **?** |
| 1. median or mean age (with standard deviation or range)? | **x** |  |  |  |
| 2. distribution of sex? | **x** |  |  |  |
| 3. important disease characteristics (e.g. severity, status, duration) and description of treatment? |  |  | **x** |  |
| 4. setting(s) in which the study was conducted? e.g. general population, primary care or hospital/rehabilitation care | **x** |  |  |  |
| 5. countries in which the study was conducted? |  |  | **x** |  |
| 6. language in which the HR-PROs instrument was evaluated? | **x** |  |  |  |
| 7. Was the method used to select patients adequately described? e.g. convenience, consecutive, or random | **x** |  |  |  |
| 8. Was the percentage of missing responses (response rate) acceptable? | **x** |  |  |  |
| **D. Content validity: Generalisability box** |  |  |  |  |
| *Was the sample in which the Health‐Related Patient‐Reported Outcomes instrument was evaluated adequately described? In terms of:* | **Yes** | **No** | **NA** | **?** |
| 1. median or mean age (with standard deviation or range)? | **x** |  |  |  |
| 2. distribution of sex? | **x** |  |  |  |
| 3. important disease characteristics (e.g. severity, status, duration) and description of treatment? |  |  | **x** |  |
| 4. setting(s) in which the study was conducted? e.g. general population, primary care or hospital/rehabilitation care | **x** |  |  |  |
| 5. countries in which the study was conducted? |  |  | **x** |  |
| 6. language in which the HR-PROs instrument was evaluated? | **x** |  |  |  |
| 7. Was the method used to select patients adequately described? e.g. convenience, consecutive, or random | **x** |  |  |  |
| 8. Was the percentage of missing responses (response rate) acceptable? | **x** |  |  |  |