RNAO Healthcare Excellence Canada

LEADING CHANGE TOOLKIT™

TO HELP CHANGE AGENTS AND CHANGE TEAMS MAKE LASTING IMPROVEMENTS IN HEALTH CARE

Evidence Based Practice Knowledge and Attitudes and Behaviours Questionnaire (EBP-KABQ)

Pragmatic Testing and Content Validity Data

Summary of Pragmatic properties

The EBP-KABQ had an overall **objective pragmatic score** of **15** out of **20**. According to this objective pragmatic assessment, the EBP-KABQ's strengths include being available in the public domain, having acceptable language, not requiring training for administration, and having less than 50 items. The EBP-KABQ lost scores because interpretation of the total score is not clearly outlined.

Based on two RNAO stakeholders, the EBP-KABQ was rated **3** out of **4** for **likelihood to use**. The EBP-KABQ has an overall **stakeholder facing assessments** score of **17** out of **24**.

Tool Pragmatic Properties

Tools were assessed for pragmatic properties with the PAPERS tool (Stanick et al. 2019); a validated tool for measuring a tool's acceptability, ease of use, appropriateness, and usefulness. Objective pragmatic properties were assessed by two research assistants independently and with consensus for each tool. Stakeholder facing pragmatic properties were assessed independently by at least two stakeholders (e.g., champions) for each tool. A mean score was calculated from participants' responses for each of the stakeholder facing PAPERS survey questions.

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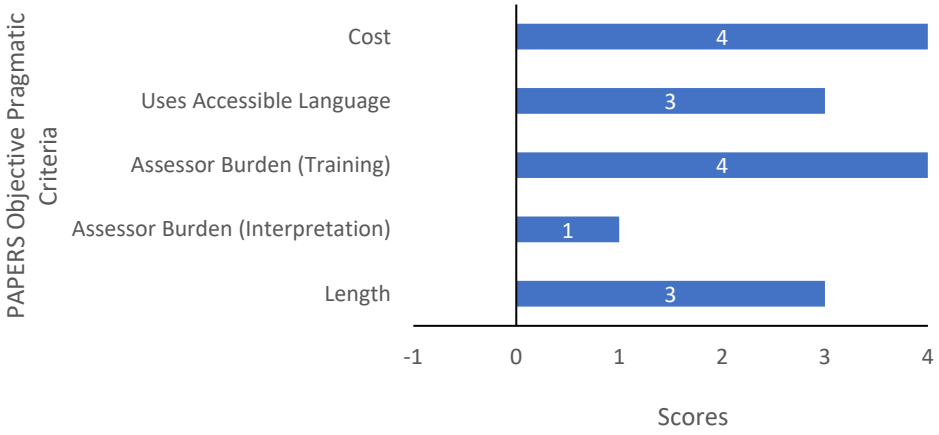
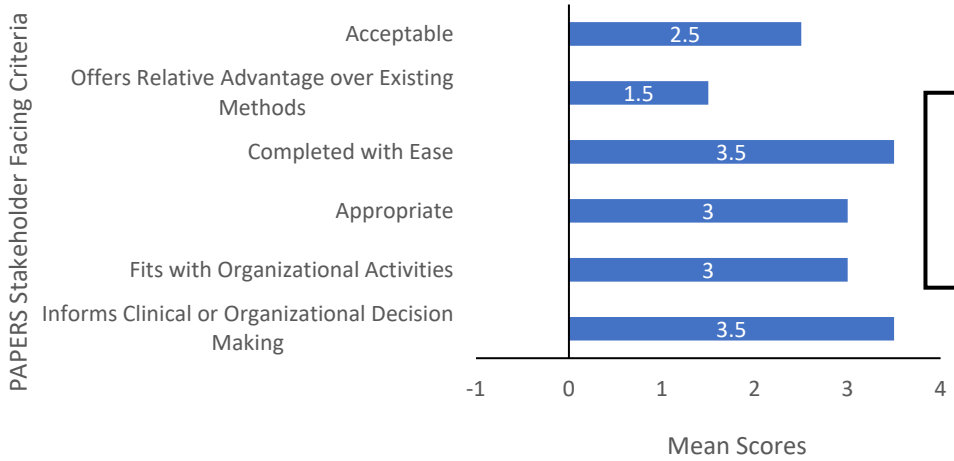
PAPERS Objective Pragmatic Criteria - Scoring details below



Overall PAPERS Objective Pragmatic Score:

15 (out of 20)

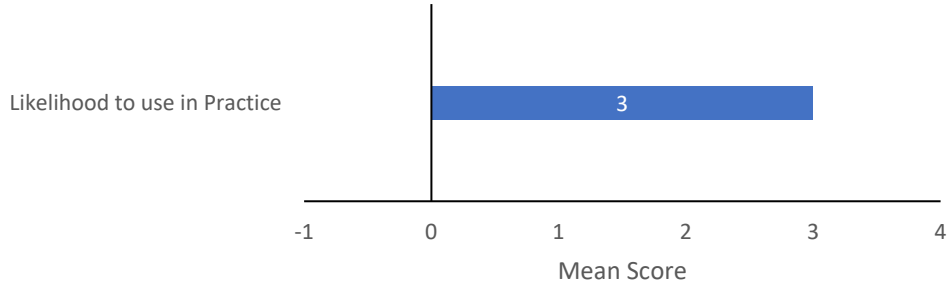
PAPERS Stakeholder Facing Criteria (n = 2 stakeholders) - Scoring details below



Overall PAPERS Stakeholder Facing Criteria Score:

17 (out of 24)

Likelihood to Use the Tool in Practice (n = 2 stakeholders) - Scoring details below



Content Validity

Summary of Content Validity

According to our assessment using an adapted version of a checklist by Mokkink et al. (2010), the EBP-KABQ has evidence of content validity.

Content validity refers to the degree to which the content of the tool is an adequate reflection of the construct being measured. In the case of the Evidence Based Knowledge and Attitudes and Behaviours Questionnaire (EBP-KABQ), this refers to the extent that individuals can use the EBP-KABQ to assess barriers/facilitators to knowledge use and monitor knowledge use by measuring the following subscales:

- Knowledge (8 items)
- Attitudes (14 items)
- Behaviour (8 items)
- Outcomes/decisions (3 items)

General Requirements	Yes	No
1. Was there an assessment of whether all items refer 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	

Adapted from: Mokkink, L.B., Terwee, C.B., Knol, D.L., Stratford, P.W., Alonso, J., Patrick, D.L., Bouter, L.M. and De Vet, H.C. (2010). The COSMIN checklist for evaluating the methodological quality of studies on measurement properties: a clarification of its content. *BMC medical research methodology*, *10*(1), 1-8.

According to our assessment of content validity using a checklist by Mokkink et al. (2010), the EBP-KABQ has evidence of content validity.

Content Validity Requirement 1:

- The items of the KAB tool, which is the original tool that the EBP-KABQ was based on, were developed using a four-step approach, utilizing varying sources of knowledge (Johnston et al., 2003):
    - Literature review of published articles on evidence-based practice (EBP) educational interventions, teaching and evaluation techniques/process and questionnaires used in various levels of medical training (e.g., undergraduate, postgraduate, or practicing clinicians)
    - Focus group of 10 fifth year medical students at Hong Kong University on their experiences of evidence base teaching and their perceived usefulness/impact of EBP on their own learning and patient care.

  - Consultation of a panel of international experts in EBP, medical education, clinical medicine, psychometrics, and evaluation and measurement
  - A second panel of experts in psychometrics, evaluation and measurement, and questionnaire development in a Cantonese- speaking context refined the tool. This was a necessary step because the KAB tool was developed and initially validated in sample at Hong Kong University.
- Since the EBP-KABQ is modified version of the KAB tool, the above content validity assessment for the KAB tool pertains to the EBP-KABQ items. The modifications, which consisted of item deletion were based partly on expert review (two authors of the development paper for EBP-KABQ)'s perceptions of which items were redundant or unclear and items that did not perform well during the validation study (Shi et al., 2014).

Content Validity Requirement 2:

- The KAB tool was tested on 159 fifth year medical students at University of Hong Kong. After revisions were completed based on this initial testing, the final KAB tool was tested on 293 second- and third-year medical students. The tool developers stated that testing the KAB on medical students with varying clinical experience and at different stages of their study resulted in more robust testing (Johnston et al., 2003).
- The EBP-KABQ on the other hand was tested on 673 clinicians with varying professional roles: physicians, nurses, occupation therapists, physiotherapists, and psychologists (Shi et al., 2014).

Content Validity Requirement 3:

- The robust development (consisting of four steps) and testing of the KAB as described above (Johnston et al., 2003), and the testing done by the authors to ascertain that the EBP-KABQ is pertinent to other health care providers (Shi et al., 2014) demonstrates that these tools can evaluate knowledge, attitudes, and behaviour for their respective intended participants.
- The authors of the EBP-KABQ reported that the knowledge, attitude, and behaviour scales had weak correlations which they stated reinforced the distinction between these subscales. The same authors also reported that the knowledge, attitude, and behaviour subscales were moderately correlated with outcomes/decision subscale, which coincided with the authors hypothesis that increased in the knowledge, attitude, and behaviour subscales would result in an increase in outcomes/decisions based on EBP (Shi et al., 2014).

Content Validity Requirement 4:

- According to the respective tool developers of the KAB tool (Johnston et al., 2003) and the EBP-KABQ (Shi et al., 2014), both tools comprehensively measure the factors that can affect health care providers use of EBP. As stated above, both tools were created with extensive knowledge of the literature, expertise knowledge and feedback from health care providers.

Limitations:

- A key limitation of the development study for the EBP-KABQ was that contextual factors were not assessed (e.g., differences in EBP training, culture, and language); these contextual factors could have potentially acted as confounding factors. The tool developers of the EBP-KABQ also stated that the items deleted according to expert advise and statistical performance could have been remedied through performing further qualitative studies to understand why these items did not perform well (Shi et al., 2014).

References

Johnston, J. M., Leung, G. M., Fielding, R., Tin, K. Y., & Ho, L. M. (2003). The development and validation of a knowledge, attitude and behaviour questionnaire to assess undergraduate evidence-based practice teaching and learning. *Medical education*, *37*(11), 992-1000.

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