e-Cardiology / Digital Health, Public Health, Health Economics, Research Methodology – e-Cardiology/Digital Health, Remote Patient Monitoring and Telehealth, m-Health & Mobile Apps

the digital health readiness questionnaire: translation and cultural adaption of the norwegian version

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Background/introduction: eHealth solutions, such as digital cardiac rehabilitation (CR), provide opportunities to strengthen secondary prevention by supporting self-management. However, successful implementation depends on patients' digital readiness, which must be considered when designing and delivering eHealth solutions. Currently, to the best of our knowledge, no validated digital readiness measure for the Norwegian context is available.
Purpose: To translate and adapt the Norwegian version of the Digital Health Readiness Questionnaire (DHRQ), and to pretest the adapted measure using cognitive interviews (CI) to assess its relevance, comprehensibility, and conceptual equivalence.
Methods: This methodological work is a part of eCardiacRehab, a 12-week digitally delivered, home-based CR programme aimed at improving access to CR for patients after percutaneous coronary intervention. The translation followed standardized requirements for back-and-forth translation to secure a systematic approach and to ensure linguistic equivalence and that the DHRQ and was culturally adapted to a Norwegian context. To pretest and evaluate the instrument, CIs were performed with 10 native Norwegians. Informants consisted of participants recruited through the Norwegian Heart and Lung Patient Organization, and healthy volunteers. The CIs involved structured retrospective verbal probing to assess the measure for clarity, interpretation, and cultural relevance. Data were analyzed by content analysis.
Results: During expert review, inconsistencies with the eHealth literacy definition were identified, leading to minor rewording for conceptual clarity. Terms, such as 'wearable', required cultural adaption. The dual phrasing 'trustworthy, reliable' could not be meaningfully separated into Norwegian, and was therefore condensed into a single description. These issues informed a minor revision prior to the CIs. The DHRQ was generally well understood. However, the interpretation of the key concepts' digital technology, information reliability and digital skills varied across participants. CIs demonstrated overall good comprehensibility, although variations in participants' interpretations of key concepts highlight the importance of careful wording in the Norwegian context. Importantly, the CIs indicated that participant's differing levels of prior digital exposure and confidence subtly shaped their interpretation of several items, underscoring the need for wording that accommodates this variation in user experience (Figure 1).
Conclusions: The systematic translation process and pretesting through CIs support the relevance, clarity, and cultural appropriateness of the adapted Norwegian version of DHRQ, enabling assessment of digital readiness among Norwegian patients. Hence, the Norwegian translation and cultural adaption of the DHRQ resulted in a Norwegian version that is both linguistically and conceptually aligned with the original version.

Overall user experience