

Psychometrics of the Expected Knowledge (EKhp) and the Received Knowledge of Hospital Patients (RKhp) instruments

Inkeroinen S¹, Leino-Kilpi H^{1,2}, Katajisto J³, Suhonen R^{1,2,4}, Valkeapää K^{1,5},

ESOPTE research team – Cabrera E^{6,7}, Charalambous A^{1,8}, Fatkulina N^{9,10}, Sigurðardóttir Á^{11,12}, Sourtzi P¹³, Zabalegui A¹⁴

1) Department of Nursing Science, University of Turku, Finland, 2) Turku University Hospital, Finland, 3) Department of Mathematics and Statistics, University of Turku, Finland, 4) City of Turku, Welfare Division, Finland, 5) Finnish Defense Research Agency, Finland, 6) School of Health Sciences, University Pompeu Fabra, Spain, 7) Department of Care Management and Social Work, Sechenov University, Russia, 8) Faculty of Nursing, Cyprus University of Technology, Cyprus, 9) Department of Nursing, Klaipeda University, Lithuania, 10) Institute of Health Sciences, Vilnius University, Lithuania, 11) School of Health Sciences, University of Akureyri, Iceland, 12) Akureyri Hospital, Iceland, 13) Faculty of Nursing, National and Kapodistrian University of Athens, Greece, 14) Hospital Clinic of Barcelona, Spain

Introduction

- Empowering patient education is crucial for patients with health problems, and its importance is acknowledged in international strategies (European Commission, 2017; World Health Organization, 2013).
- In patient education, received knowledge corresponding to expected knowledge seems to support empowerment of patients (Klemetti et al., 2015; Rankinen et al., 2007).
- To evaluate the empowerment in patient education, instruments are needed. Therefore, the Expected Knowledge of Hospital Patients (EKhp) and the Received Knowledge of Hospital Patients (RKhp) were developed.

Objective

Objective of this study was to evaluate psychometrics of the EKhp and RKhp with international data to enable international use of the instruments.

Methodology

- The EKhp and RKhp are based on six elements of empowering knowledge: bio-physiological, functional, experiential, social, ethical and financial. Instruments have been used in numerous studies in Finland (Klemetti et al., 2015; Rankinen et al., 2007).
- In this study, instruments were translated into six languages and tested in seven European countries (Cyprus, Finland, Greece, Iceland, Lithuania, Spain and Sweden) in 2009–2012.
- Theoretical construct of the instruments was evaluated with confirmatory factor analysis and internal consistency was demonstrated with Cronbach's alpha.

Results

- 1595 orthopaedic patients from seven countries participated in the study.
- Confirmatory factor analysis supported the structures (40 items and six subscales) of instruments with few exceptions.
- R-squares of subscales were satisfactory in every country (range in the EKhp was 0.333–0.887, and in the RKhp 0.330–0.989).
- Both instruments had satisfactory internal consistency: Cronbach's alpha value for the whole instrument of the EKhp ranged between the countries from 0.87 to 0.99, and in the RKhp from 0.97 to 0.99.

Conclusions

- Based on the psychometric evaluation, the EKhp and RKhp are structurally valid and internally consistent instruments to evaluate patient education internationally.
- Instruments enable comparison of expected knowledge and received knowledge in patient education, thus providing unique and important information for nurses supporting empowerment of patients.

References

European Commission. (2017). Blocks: Tools and methodologies to assess integrated care in Europe. Report by the Expert Group on Health Systems Performance Assessment. Luxembourg: Publications Office of the European Union.

Klemetti, S., Leino-Kilpi, H., Cabrera, E., Copanitsanou, P., Ingadottir, B., Istomina, N., ... Valkeapää, K. (2015). Difference between received and expected knowledge of patients undergoing knee or hip replacement in seven European countries. *Clinical Nursing Research*, 24(6), 624-643. <http://doi.org/10.1177/1054773814549992>

Rankinen, S., Salanterä, S., Heikkinen, K., Johansson, K., Kaljonen, A., Virtanen, H., & Leino-Kilpi, H. (2007). Expectations and received knowledge by surgical patients. *International Journal of Quality in Health Care*, 19(2), 113-119. <http://doi.org/10.1093/intqhc/mzl075>

World Health Organization. (2013). Health 2020 - A European policy framework and strategy for the 21st century. World Health Organization, Regional office for Europe. http://www.euro.who.int/__data/assets/pdf_file/0011/199532/Health2020-Long.pdf

Financing entities, Conflict of interest

This study was financially supported by the following: Cyprus: the Cyprus University of Technology; Finland: University of Turku, the Academy of Finland, the Finnish Association of Nursing Research, the Finnish Foundation of Nursing Education; Greece: Faculty of Nursing, National and Kapodistrian University of Athens; Iceland: the Landspítali University Hospital Research Fund, the Akureyri Hospital Science Fund, the University of Akureyri Science Fund, the KEA fund, Akureyri, the Icelandic Nurses' Association Science Fund; Lithuania: University of Klaipeda; Spain: Colegio Oficial de Enfermería de Barcelona; and Sweden: the Swedish Rheumatism Association and the County Council of Östergötland.

Authors declare that they have no conflicts of interest.