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Psychometric validation of a healthcare professionals' attitude assessment scale toward maternal vaccination: A rasch model analysis

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Abstract

Introduction: Maternal vaccination is a proven strategy to protect newborns from vaccine-preventable diseases, yet its success depends heavily on healthcare professionals' attitudes and recommendations. In Malaysia, a validated and culturally appropriate tool to measure these attitudes is lacking. This study aimed to develop and validate a culturally relevant, reliable tool to assess healthcare professionals' attitudes toward maternal vaccination Materials and Methods: The items were initially developed based on an extensive review of literature, vaccination guidelines, and expert reviews, followed by content and face validity involving nine and 30 reviewers, respectively. A pilot study was conducted on 196 respondents, and the reliability and validity were assessed using Rasch analysis (RA). Results: Initially, 26 items were developed. However, only half of the items passed the content validity phase, with another two items removed post face validation. Eleven items were piloted for assessment of reliability and validity. Three items were removed due to concerns over their fit indices, and one item for redundancy. The final refined questionnaire consisted of seven

items, demonstrating good reliability (person reliability = 0.80, separation index = 1.98), unidimensionality, and appropriate rating scale functioning, confirming its suitability for assessing healthcare professionals' attitudes toward maternal vaccination. Conclusion; This study presents a psychometrically sound tool to measure healthcare professionals' attitudes toward maternal vaccination. © 2025, Malaysian Medical Association. All rights reserved.

Author keywords

Attitude; maternal vaccination; questionnaire; Rasch analysis; reliability; validity

Indexed keywords

MeSH

Adult; Attitude of Health Personnel; Female; Health Personnel; Humans; Malaysia; Male; Pilot Projects; Pregnancy; Psychometrics; Reproducibility of Results; Surveys and Questionnaires; Vaccination

EMTREE drug terms

diphtheria pertussis tetanus vaccine; influenza vaccine

EMTREE medical terms

adult; Article; attitude; attitude assessment; attitude scale; controlled study; cross-sectional study; female; health care; health care personnel; hospitalization; human; human experiment; male; principal component analysis; psychometry; questionnaire; Rasch analysis; toward maternal vaccination; vaccination; work experience; health personnel attitude; Malaysia; pilot study; pregnancy; psychology; reproducibility; validation study

Device trade names

Commercial names given to devices, used for branding and differentiation in the market, commonly referenced in scientific and clinical research.

Winsteps 3.72.1; 15; Outfit MNSQ statistics 14

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