Criterion validation of the Living with Medicines Questionnaire Version 3 (LMQ-3)

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Background There are few patient-reported tools available for quantifying medicine use experiences. The Living with Medicines Questionnaire (LMQ-3) is a generic, patient-reported measure developed in England, for long-term medicines users. Criterion-related validation is one necessary aspect of psychometric testing for such instruments to be used in pharmaceutical care research or practice.

Purpose To investigate the criterion-related validity of the LMQ-3 against standard measures of treatment satisfaction and health-related quality of life.

Method NHS Ethics approval was obtained. The LMQ-3 was tested alongside the TSQM-II, an 11-item instrument measuring satisfaction with four aspects of medicines (effectiveness, side effects, convenience, global satisfaction), and the EQ-5D-5L, a generic measure of health status. The instruments were combined and distributed by hand to patients in community pharmacies, general practices and hospital out-patient departments. Spearman’s correlation coefficients (r) were used to assess relationships. Hypotheses tested were: negative relationship between LMQ-3 total score and TSQM-II global satisfaction scale; negative correlations between LMQ-3 side-effect burden, lack of effectiveness and practical difficulties domain scores with TSQM-II side effects, effectiveness and convenience subscales; weak negative correlation between LMQ-3 total score and overall health status, measured using EQ-5D-5L.

Findings 1306 questionnaires were distributed: 220 in GP practices; 150 in community pharmacies and 936 in outpatient clinics. 422 completed questionnaires were returned (32.3%); 36.4% (n=80), 44.7% (n=67) and 29.4 % (n=275) for GP practices, community pharmacies and outpatient clinics respectively. 52.8%, (n=208) were female, mean (± SD) age was 56.1 (± 18.17), range 18-92 years, and the mean (± SD) number of medicines used was 4.6 (±3.67). A strong negative correlation was found between LMQ-3 total score and TSQM-II global satisfaction scale (r=-0.616), confirming that higher medicine burden was associated with lower satisfaction. Strong correlations between thematically-comparable subscales were also found: LMQ-3 lack of effectiveness with TSQM-II effectiveness (r=-0.628); LMQ-3 side-effect-burden with TSQM-II side effects (r=-0.597); and LMQ-3 practical difficulties with TSQM-II convenience scale (r=-0.529). There were weak correlations between LMQ-3 total score and EQ-5D-5L scores; ranging from 0.284 for self-care to 0.436 for anxiety/depression. LMQ-3 total score was negatively associated with overall health score (r = -0.383).

Conclusion Findings support the validity of the LMQ-3 as a measure of medicine burden and suggest it assesses a distinct concept negatively associated with treatment satisfaction and HRQoL. The measure should be of use in intervention studies involving pharmacists and could also enable them to improve pharmaceutical care for individuals.