Measuring Patient Experiences of Integration in Health Care Delivery: The Psychometric Properties of IntegRATE

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Background and Aims

A well-integrated health care delivery system is likely to support and promote the adoption of shared decision-making. We recently developed IntegRATE, a four-item measure that assesses patient experiences of integration in health care delivery in four domains: effective information transfer across team members, concordant information provision by team members, respect and collaboration among team members, and patient understanding of the different roles of the various team members. The aim of this study was to assess the discriminative validity, concurrent validity, divergent validity, intra-rater reliability, and responsiveness of IntegRATE under controlled conditions.

Methods

We composed three versions of a fictional letter sent by a couple to a hospital describing a recent maternity care experience. The letters were produced in text and audio formats, were matched on structure and word length, and varied only in the degree of integration featured in the care experience. Using these letters, we conducted a 3 x 2 mixed fractional factorial study. The between-subjects factor was letter (L_1 (good integration), L_2 (mixed integration), L_3 (poor integration)) and the within-subjects factor was time (T_1, T_2). Participants were adults who had utilised health care services in the past year and were recruited using a commercial panel service in the United States. Participants were randomly allocated to read (or listen to) L_1, L_2 or L_3 and were asked to complete IntegRATE, the Role Clarity and Coordination within Clinic subscale of the Patient Perceived Continuity of Care from Multiple Clinicians, and a single item measuring perceptions of the hospital's openness to patient feedback, imagining they were an author of the letter. One to three weeks' later, all participants who were originally allocated to L_1 or L_3 were invited to take a second survey. Those that consented were randomly allocated to read (or listen to) either L_1 or L_3 and were again asked to complete all three measures.

Results

Six hundred people participated at T_1 and 190 people participated at T_2. IntegRATE scores were significantly higher for L_1 than L_2 (MD=2.62, p<.001) and significantly higher for L_2 than L_3 (MD=1.92, p<.001). There was a strong, positive correlation between IntegRATE scores and scores on the Role Clarity and Coordination within Clinic subscale (r=.75, p<.001). There was a weak, positive correlation between IntegRATE scores and perceived openness to patient feedback (r_{pb}=.26, p<.001). There was substantial agreement between IntegRATE scores at T_1 and T_2 when participants were allocated to the same letter (ICC(2,1)=.78, p<.001). IntegRATE scores were significantly higher at T_1 than T_2 among people who were allocated to L_1 and then L_3 (MD=5.16, p<.001) and were significantly higher at T_2 than T_1 among people who were allocated to L_3 and then L_1 (MD=-5.15, p<.001). Where sample sizes allowed, analyses were also conducted separately by participant gender and health literacy and yielded largely consistent results.

Conclusion

IntegRATE was found to demonstrate discriminative, concurrent, and divergent validity, as well as intra-rater reliability and responsiveness, under controlled conditions. We recommend that the psychometric properties of IntegRATE now be examined in real-world clinical settings.