Health-related quality of life and the physician–patient alliance: a preliminary investigation of ultra-brief, real-time measures for primary care

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BRIEF COMMUNICATION

Health-related quality of life and the physician–patient alliance: a preliminary investigation of ultra-brief, real-time measures for primary care

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Abstract

Purpose Many psychometrically sound measures exist but feasibility makes real-time use difficult. This study validates two ultra-brief, patient-rated instruments, the Wellness Rating Scale (WRS) and the Provider Alliance Scale (PAS).

Methods The WRS and the EuroQol visual analogue scale (EQ VAS) were completed by patients in a primary care practice ($n=97$) and a non-clinical sample of graduate students ($n=122$). The WRS and the Patient-Completed Health Outcome Measures Information System-Global 10 (PROMIS) were completed by patients in a primary care setting ($n=305$). The WRS and PROMIS were also administered to graduate students ($n=158$). The PAS and the Patient Physician Working Alliance were administered to a primary care sample of 40 and a retrospective sample of students ($n=228$).

Results The WRS generated reliable scores, with coefficient alphas ranging from .83 to .91. Bivariate correlations between the WRS and the EQ VAS ($r=.55–.75$) and PROMIS ($r=.64–73$) indicate moderate-to-strong concurrent validity. The larger coefficients were with patient samples. Construct validity was evidenced by higher levels of distress for chronic conditions as well as for clinical samples. The PAS achieved an alpha of .94 for the primary care sample and .87 for the retrospective sample and bivariate correlations ($r=.61–.72$) indicate moderate-to-strong evidence of concurrent validity.

Conclusions The WRS and PAS demonstrate sufficient reliability and validity to move to the next phase of research: a randomized clinical trial comparing the use of real-time feedback from the two measures to treatment as usual targeting outcomes of chronic disease patients.

Keywords PROM · Patient-centered care · Patient–provider alliance · Health-related quality of life · EQ-5D VAS · PROMIS

Several psychometrically validated health-related quality of life (HRQoL) and patient-rated outcome measures (PROM) are available [1, 2]. In addition to population-based norms and other invaluable aggregate health statistics, patient-rated HRQoL instruments and PROM can be clinically used to emphasize the perspective of the individual to clarify priorities for care, increase patient involvement, self-efficacy, self-management, and patient satisfaction [3]. Despite these advantages, such measures do not typically influence either the process of care or eventual outcomes for the individual patient [4]. Similarly, numerous valid measures of the physician–patient alliance have also emerged [5]. Despite growing evidence that the working alliance is predictive of patient adherence, satisfaction, quality of life [6], and even medical outcomes [7], the impact of alliance feedback is largely unknown [4].

Existing measures of outcome and process are often lengthy, complex, and require outside interpretation and analysis, rendering them infeasible for real-time use in routine care. This article describes the validation of an

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ultra-brief HRQoL measure, the Wellness Rating Scale (WRS) [8] and a physician–patient alliance scale, the Provider Alliance Scale (PAS) [9]. The WRS is compared to two extensively used and validated measures, the EuroQoL visual analogue scale (EQ VAS) and the Patient-Completed Health Outcome Measures Information System-Global 10 (PROMIS). The PAS is compared to a validated alliance scale, the Physician–Patient Working Alliance (PPWA) [10]. We hypothesized that both instruments would demonstrate adequate reliability and validity, and that the WRS would differentiate a clinical from non-clinical population as well chronic illness and acute patients. Implications for clinical practice and future research are discussed.

Wellness rating scale: method

Settings

This study was approved (IRB00003973) by the University of New England Institutional Review Board (IORG0003335) and written informed consent was obtained from all participants. This study occurred in three settings: a primary care practice in Saco, Maine; graduate health professions programs of the University of New England (UNE) in Portland and Biddeford, Maine; and at Peak Vista Community Health Center (hereafter Peak Vista), a Federally Qualified Health Center in Colorado Springs, Colorado serving impoverished and underserved populations. The Saco, Maine primary care practice site administered the WRS and EQ VAS to a patient population. The UNE setting administered the WRS, EQ VAS, and PROMIS to a non-clinical population (students). Peak Vista administered the WRS and the PROMIS to a patient population in one of their family health primary care teaching clinics.

Participants

Participants ($n = 97$) at the primary care practice in Saco, Maine were adult, English speaking patients living independently (21 male and 76 female). The UNE sample ($n = 122$ taking the WRS and EQ VAS and $n = 158$ taking the WRS and PROMIS) consisted of graduate students enrolled in osteopathic medicine, occupational therapy, and social work programs. The third sample from Peak Vista ($n = 305$) was 205 women (67%) and 100 men (33%), with an average age of 39 (range 18–82). Most patients (61%) presented for chronic illness care, 20% for acute care, 9.5% for wellness physicals, and 9.5% of patients either did not complete the reason for visit question, or it could not be determined.

Measures

Wellness rating scale (WRS)

The WRS (see Fig. 1) is an ultra-brief instrument designed to provide a feasible assessment of patient-rated HRQoL. It was modeled after the Outcome Rating Scale [11] from behavioral healthcare and developed after a review of the literature, and refined through field testing and focus groups with both patients and physicians.

The EuroQoL visual analogue scale (EQ VAS)

The EQ-5D and VAS are among the most commonly used generic health status measurements and have demonstrated good reliability and strong validity for various health conditions [12]. The EQ VAS score was used in the current analysis.

Patient-completed health outcome measures information system (PROMIS)

PROMIS instruments are widely used and have extensive evidence that they are reliable and valid measures of generic symptoms and functional status comparable to legacy instruments [13, 14].

Procedure

The WRS and the EQ VAS were administered one time to consenting adult patients at the Saco, Maine primary care clinic and the WRS, EQ VAS, and PROMIS to the UNE non-clinical participants. The WRS and PROMIS were administered to consenting adult patients at the Peak Vista family health clinic when they presented for their primary care appointment. Typical for primary care, adult patients presenting at this setting are seen for the following broad "reason for visit" categories of a patient's medical appointment: acute care, chronic illness, and wellness or health physicals.

Provider alliance scale: method

Measures

Provider alliance scale (PAS)

The PAS (see Fig. 1) is a visual analog instrument comprising four subscales designed to rate the patient–provider encounter in real time. It was modeled after the Session

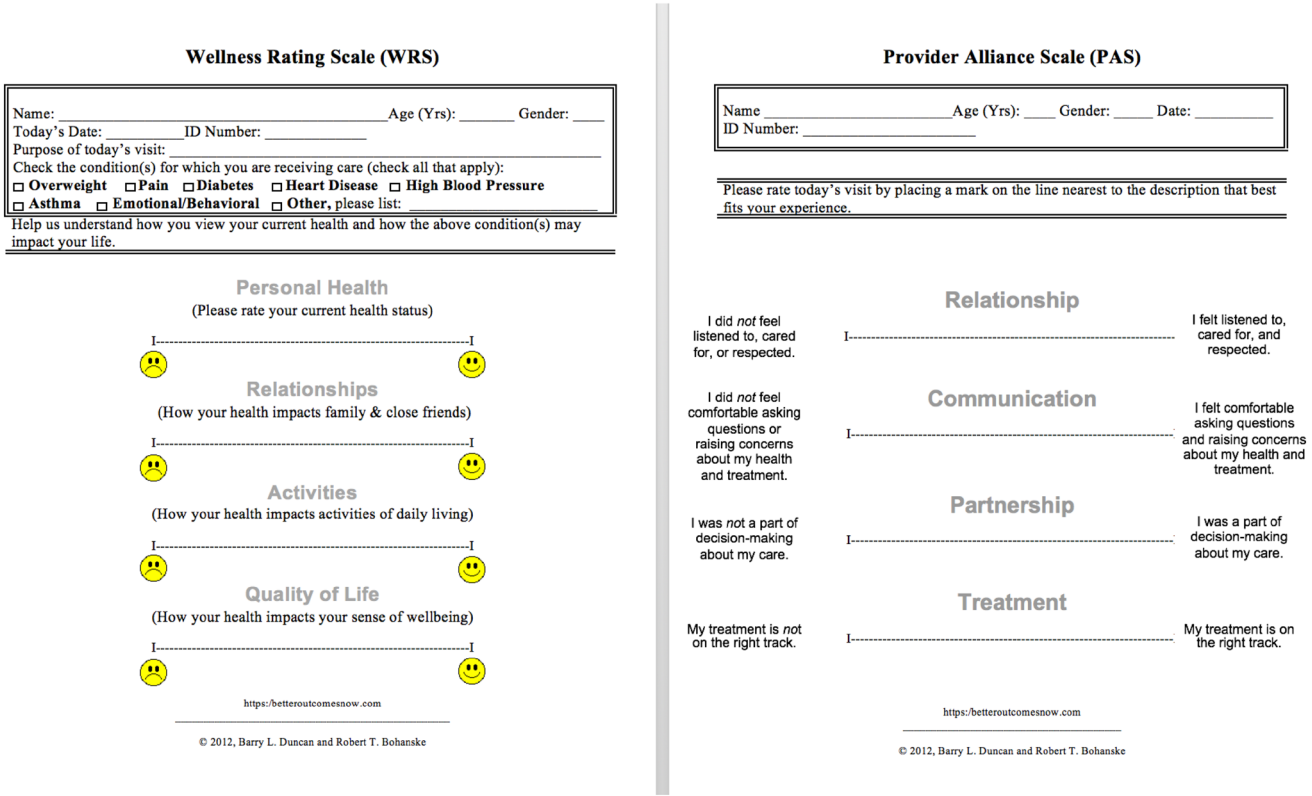

Fig. 1 The Wellness Rating Scale and Provider Alliance Scale

Rating Scale [15] from behavioral healthcare and developed after a review of the literature, and refined through field testing and focus groups with both patients and physicians.

Physician–patient working alliance (PPWA)

The PPWA includes twelve items addressing various aspects of the physician–patient relationship. The PPWA has been found to have adequate concurrent validity across several relationship and alliance variables [10].

Procedure

The PAS and the PPAW were administered one time to consenting adult patients at the Saco, Maine primary care clinic ($n=40$) and to the UNE participants ($n=228$) based on their recollection of their recent primary care experience.

Results

Means, standard deviations, and alphas, where applicable, for the WRS, EQ VAS, and PROMIS are shown in Table 1 for the three samples. Scores are also broken down by gender and chronic versus non-chronic in the patient samples. The WRS generated reliable scores, with coefficient alphas ranging from .83 to .91. Bivariate correlations between the WRS and the EQ VAS ($r=.55$ to .75) and PROMIS ($r=.64$ to 73) indicate moderate-to-strong concurrent validity. The larger coefficients were with patient samples. Construct validity was evidenced by higher levels of distress for chronic conditions as well as for clinical samples. Means, standard deviations, and alphas for the PAS and the PPWA for the two samples are shown in Table 2. The PAS achieved an alpha of .94 for the primary care sample and .87 for the retrospective sample and bivariate correlations ($r=.61$ to .72) indicate moderate-to-strong evidence of concurrent validity.

Discussion

The aim of this study was to investigate the psychometrics of two ultra-brief measures, the WRS, and the PAS. The WRS provides a patient-rated, HRQoL measure that can be feasibly incorporated into workflow and enable a real-time use of patient preferences to guide treatment. Similarly, the PAS provides a convenient way to center the patient's perceptions about the alliance, allowing the physician to adjust as needed. Both measures intend to engage patients in their healthcare as true partners. This study found evidence to

Table 1 Means, standard deviations, and coefficient alphas for the WRS, EQ VAS, and PROMIS

Site and measure	Overall mean	Mean by gender		Mean by condition		α
		Women	Men	Chronic	Non-chronic	
Peak Vista ($N=302$)						
WRS	22.53 (10.06)	21.57 (10.04)	24.62 (9.95)	21.07 (9.93)	24.85 (9.85)	.90
PROMIS	29.21 (7.83)	28.55 (7.58)	32.75 (7.70)	28.79 (7.58)	31.71 (7.92)	.89
Saco, Maine ($N=97$)						
WRS	26.90 (10.07)	26.93 (10.18)	25.59 (9.99)	25.10 (10.22)	31.07 (8.44)	.91
EQ VAS	75.16 (19.67)	74.29 (18.88)	74.52 (22.65)	71.79 (21.47)	83.07 (11.44)	n/a
UNE ($N=122$)						
WRS	32.70 (4.72)	32.52 (4.49)	33.81 (6.00)	n/a	n/a	.85
EQ VAS	82.61 (12.96)	81.76 (11.51)	82.84 (11.63)	n/a	n/a	n/a
UNE ($N=158$)						
WRS	31.34 (6.97)	31.54 (6.49)	31.66 (7.25)	n/a	n/a	.83
PROMIS	30.01 (4.78)	30.09 (4.36)	30.43 (4.41)	n/a	n/a	.84

Saco. Maine = primary care facility in Southern Maine; UNE = graduate health professions programs of the University of New England; Peak Vista Community Health Center in Colorado Springs, Colorado. Standard deviations are in parentheses. The Peak Vista sample also included the Outcome Rating Scale (ORS) [11]. The WRS correlated $r=.83$ with the ORS; the ORS correlated $r=.77$ with the PROMIS

WRS wellness rating scale, *EQ VAS* the EuroQol visual analogue scale, *PROMIS* patient-completed health outcome measures information system, *n/a* not applicable

Table 2 Means, standard deviations, and coefficient alphas for the PAS and PPWAF

Site and measure	Mean	α
S. Maine ($N=40$)		
PAS	37.31 (5.72)	.94
PPWAF	56.54 (5.83)	.93
UNE ($N=228$)		
PAS	31.71 (7.59)	.87
PPWAF	48.55 (8.91)	.81

Saco, Maine = primary care facility in Southern Maine; UNE = graduate health professions programs of the University of New England. Standard deviations are in parentheses

PAS provider alliance scale, *PPWAF* physician–patient working alliance

support the reliability and validity of the both instruments, reporting good internal consistency and moderate-to-strong concurrent validity. The WRS also differentiated clinical vs. non-clinical populations as well as patients with chronic conditions.

Pursuant to the gains observed in randomized clinical trials (RCT) of real-time feedback in behavioral healthcare [16], the next step is a RCT that compares the real-time use of the WRS and PAS as a feedback intervention to treatment as usual. We hypothesize that patient feedback measures, like the WRS and PAS, would have the most value with chronic medical conditions to more fully engage those suffering with long-term illnesses. Nearly one in two U.S. deaths has at least one chronic illness and chronic disease contributes to 75% of escalating health care costs [17]; in Europe, chronic illnesses account for 77% of all deaths. Over one-third of the European population above the age of 15 have a chronic disease and two out of three people reaching retirement age will have at least two chronic conditions, an increasing human and financial burden [18, 19]. Chronic diseases cause increasing numbers of deaths worldwide [19]. The RCT seeks to address the relationship between patient-rated physician alliance and patient-rated outcomes, patient-rated physician alliance and biological outcomes, and patient-rated outcomes and biological outcomes [3, 6, 7]. We believe that further engagement of patients as true partners will likely result in a positive relationship across these variables.

This study offers only preliminary results of the reliability and validity of the WRS and PAS. Because of their brevity, the WRS and PAS are weaker psychometrically and do not have the same breadth and depth of assessment as the longer scales. At the same time, a measure that goes unused is useless regardless of its strengths. In the real world of delivering health care, finding the right measure means striking a balance between the competing demands of reliability, validity, and feasibility. The development of the WRS and PAS reflects one attempt to find such a balance.

Many healthcare settings today are characterized by high caseloads, increasing costs, and greater demand for accountability. As medicine grows increasingly complicated, communication between physician and patient grows even more significant. Despite all the advances in technology, medicine is still fundamentally a human endeavor, and despite the sophisticated diagnostic tools of modern medicine, the conversation between patient and doctor remains the primary

diagnostic tool [20]. Feasible measures that provide real-time feedback about the patient's preferred target of intervention and the doctor–patient relationship may facilitate better communication, patient engagement, adherence, and ultimately improved patient outcomes.

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Compliance with ethical standards

Conflict of interest Duncan is a co-holder of the copyright of the Partners for Change Outcome Management System (PCOMS) instruments. The measures are free for individual use but Duncan receives royalties from licenses issued to organizations. The web-based application of PCOMS, BetterOutcomesNow.com, is a commercial product and he receives profits based on sales.

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