Cross-cultural Adaptation and Psychometric Properties of Patient-reported Outcome Measures in Arabic Speaking People: A Scoping Review

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INTRODUCTION

Patient-reported outcome measures (PROMs) provide valuable information on the impact of disease and treatment on quality of life from a patient perspective.[1]

The use of PROMs data in clinical practice and research is now recognized as a key indicator of health care quality and safety.[2]

Existing PROMs are largely intended for use in non-Arabic-speaking people and health care settings.

For more than a decade, there has been a fundamental shift in focus on the development, cultural adaptation and the use of PROMs as an outcome measure in Arabic countries however, the quality of cross-cultural adaptation (CCA) and measurement properties of such PROMs have not been comprehensively evaluated.

OBJECTIVES

To identify PROMs developed or utilized in Arabic-speaking people/countries and critically evaluate their CCA and measurement properties.

METHODS

The current Scoping review was conducted and reported in compliance with the (PRISMA-ScR) guidelines.[3]

- MEDLINE, EMBASE, CINAHL, PsycINFO, IPI and ISI Web of Science were searched to retrieve PROMs were searched using "PROMs", "Arabic speaking countries", "cultural adaptation" and "Psychometric properties" terms.

- The studies were included if they: considered PROMs as an outcome measure, studies reported translation and/or cross-cultural validation of PROMs into Arabic language, studies of developed PROMs in Arabic version and studies reported psychometric or measurement properties of PROMs in Arabic language.

- English and Arabic were considered the sources of evidence. No date restriction was considered.

- The online systematic review management software Covidence used for the records assessment against the pre-determined eligibility criteria.

- CCA was evaluated using Beaton guidelines [4], and the psychometric properties were assessed using COSMIN quality assessment. [5]

DISCUSSION

1 • Concerning the CCA's methodological quality, it is apparent that most of the studies in this review were lacking in some steps as only 12 (6%) of the 197 studies of CCA were in accordance with the recommended guidelines for positive ratings in all CCA criteria

2 • In terms of the methodological quality of the psychometric properties, this review found that none of the identified PROMs evaluated the eight measurement properties and only two studies (0.85%) evaluated six measurement properties.

3 • In terms of accordance with the COSMIN guidelines for positive ratings, hypotheses testing was 60.2 % positive rating, reliability was 55.9% positive ratings, internal consistency was 20% positive ratings and structural validity was 10.6% positive ratings.

4 • Only one of the 317 PROMs measure treatment burden on quality of life and seem suitable to evaluate pharmaceutical care services.

CONCLUSION

- The current review provides new and in-depth insights into PROMs in Arabic speaking people/countries.

- Measures available to assess patient-centered outcomes in Arabic people/countries vary in their quality of CCA processes and psychometric properties with the vast majority not adhering to the recommended standards.

- There is a need to improving methodological qualities and providing emphasis on the transparency in reporting CCA process and measurement properties.

References

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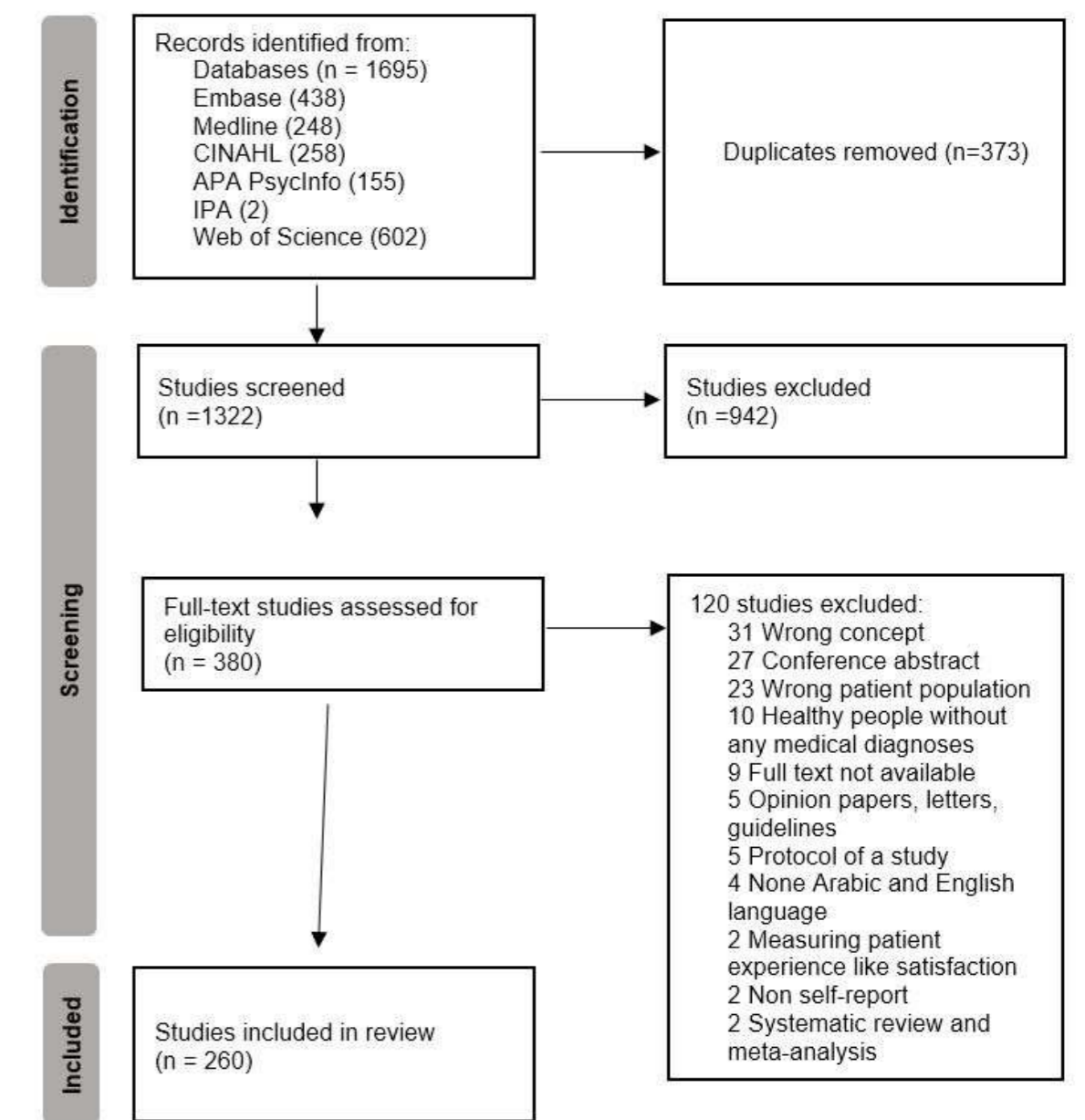
RESULTS

Figure 1: PRISMA flow chart

Table 1: Summary of the Quality assessment of CCA (175 PROMs, 201 CCA)

		Ratings	Generic Outcome Measures (n=9)	Disease-Specific Outcome Measures (n=187)	Treatment-Specific Outcome Measures (n=5)	ALL (n=201)
Translation and Cross-Cultural Adaptation	Forward Translation	+	6 (66.7%)	122 (65.2%)	2 (40%)	130 (64.3%)
		?	2 (22.2%)	44 (23.5%)	2 (40%)	49 (24.3%)
		-				
		0	1 (11.1%)	21 (11.2%)	1 (20%)	23 (11.4%)
	Synthesis	+	4 (44.4%)	92 (49.2%)	1 (20%)	98 (48.5%)
		?	1 (11.1%)	24 (12.8%)	1 (20%)	26 (12.9%)
		-				
		0	4 (44.4%)	71 (38%)	3 (60%)	78 (38.6%)
	Back Translation	+	4 (44.4%)	101 (54 %)		105 (52%)
		?	4 (44.4%)	60 (32.1%)	4 (80%)	69 (34.1%)
		-				
		0	1 (11.1%)	26 (13.9%)	1 (20%)	28 (13.9%)
	Expert committee Review	+	5 (55.5%)	117 (62.6%)	3 (60%)	126 (62.4%)
		?		4 (2.1%)		4 (2%)
		-		1 (0.5%)		1 (0.5%)
		0	4 (44.4%)	65 (34.7%)	2 (40%)	71 (35%)
	Pretesting	+	2 (22.2%)	33 (17.6%)		35 (17.3%)
		?	1 (11.1%)	15 (8%)		16 (8%)
		-	1 (11.1%)	82 (43.8%)	2 (40%)	86 (42.6%)
		0	5 (55.5%)	57 (30.5%)	3 (60%)	65 (32.2%)
	Submission	+	3 (33.3%)	84 (45.2%)	2 (60%)	91 (45%)
		?				
		-				111 (55%)
		0	6 (66.7%)	103 (54.8%)	3 (60%)	91 (45%)

+ Positive rating, ? Intermediate rating, - Negative rating, 0 No information available

Table 2: Summary of the statistical testing of the measurement properties (201 PROMs, 235 measurement properties testing)

		Ratings	Generic Outcome Measures (n=17)	Disease-Specific Outcome Measures (n=214)	Treatment-Specific Outcome Measures (n=40)	All (n=235)
Measurement Properties	Structural Validity	+	3 (17.6%)	22 (9.4%)		25 (10.6%)
		?	7 (41.2%)	23 (10.7%)		30 (12.7%)
		-	1 (5.9%)	11 (5.1%)		12 (5.1%)
		0	6 (35.3%)	158 (73.8%)	4 (100%)	168 (71.7%)
	Content/ Criterion validity	+	1 (5.9%)	7 (3.3%)		8 (3.4 %)
		?		2 (0.9%)		2 (0.8%)
		-		12 (5.6%)		12 (5.1%)
		0	16 (94.1%)	193 (90.2%)	4 (100%)	213 (90.7%)
	Cross-cultural validity\ measurement invariance	+	2 (11.8%)	4 (1.9%)		6 (2.5%)
		?		2 (0.9%)		2 (0.8%)
		-	1 (5.9%)	1 (0.5%)		2 (0.8%)
		0	14 (82.3%)	207 (96.7%)	4 (100%)	225 (95.8%)
	Hypotheses testing	+	7 (41.2%)	133 (62.1%)	2 (50%)	142 (60.2%)
		?				
		-		1 (0.5%)		1 (0.4%)
		0	10 (58.8%)	80 (37.4%)	2 (50%)	92 (39.4%)
	Internal consistency	+	5 (29.4%)	41 (19.2%)	1 (25%)	47 (20%)
		?	6 (35.3%)	146 (68.2%)	3 (75%)	155 (66.1%)
		-	3 (17.6%)	9 (4.2%)		12 (5.1%)
		0	3 (17.6%)	18 (8.4%)		21 (8.9%)
	Reliability	+	3 (17.6%)	128 (59.8%)	1 (25%)	132 (55.9%)
		?	1 (5.9%)	11 (5.1%)	1 (25%)	12 (5.1%)
		-	2 (11.8%)	13 (6.1%)	1 (25%)	16 (7.2%)
		0	11 (64.7%)	62 (29%)	2 (50%)	75 (31.8%)
	Measurement error	+		3 (1.4%)		3 (1.3%)
		?		8 (3.7%)		8 (3.4%)
		-		1 (0.5%)		1 (0.4%)
		0	17 (100%)	202 (94.4%)	4 (100%)	223 (95%)
	Responsiveness	+	1 (5.9%)	31 (14.5%)	1 (25%)	33- (14%)
		?				-
		-		3 (1.4%)		3 (1.3%)
		0	16 (94.1%)	180 (84.1%)	3 (75%)	199 (84.8%)

+ Positive rating, ? Intermediate rating, - Negative rating, 0 No information available