Health Services Research

Development and Validation of EMP-3: An Instrument to Measure Physician's Attitudes Toward Ethnic Minority Patients

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Background and Objectives: *The growing diversity of patient populations challenges health care providers. Physicians' attitudes and perceptions toward cultural diversity in health care could be partly contributing to difficulties in communication between physicians and ethnic minority patients. To evaluate these attitudes and perceptions, an instrument was developed and validated.* Methods: *A preliminary version of the instrument was developed through literature research and expert consultation and completed by 112 family physicians. Factor analysis was performed and reliability and construct validity tested.* Results: *The instrument revealed three factors that were interpreted as: (1) physicians' task perception and ideas on cultural differences in health and health care, (2) physicians' attitudes toward physician-patient communication with minority patients, and (3) physicians' perception of minority patients' needs in communication. Moderate but significant correlations were found between factors of the EMP-3 and practice organization, practice location, and physicians' gender. Several factors of the Jefferson Empathy Scale, the Patient Practitioner Orientation Scale, and the Health Beliefs and Attitude Scale related to the first two factors of the EMP-3.* Conclusions: *This instrument, designed specifically to measure physicians' attitudes toward cultural diversity, showed moderate validity and reliability results. Further adaptations and evaluation could be useful.*

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Today's society is facing the challenge of an increasing worldwide migration and a growing diversity in its population, challenging health care professionals to provide equal care for every patient. Despite adopting standards for cultural awareness, many of the standards have not been met.[1-3] Physicians tend to behave less affectively with cultural minority patients: they show less empathic utterances, both verbally and nonverbally, and ask fewer psychosocial questions. Patients themselves are less verbally expressive, less assertive, and less affective.[4] Less favorable attitudes of health care professionals likely influence their communication style and thus act as barriers to the provision of equitable care.[5-8]

Investigating physicians' perceptions of and attitudes toward cultural diversity in health care is an important first step toward improving culturally appropriate care. The available instruments, however, focus mainly on evaluating cultural curricula in medical schools,[9] on more general attitudes toward social issues or communication, or on intercultural knowledge and competences. One of these, the Health Beliefs and Attitudes Scale (HBAS) by Dobbie et al[11] measures medical students' attitudes toward the importance of taking into account patients' perspectives, opinions, beliefs, and cultural context. Another, the Attitudes Toward Social Inequalities in Medicine (ATSIM), developed by Parlow et al,[13,14] explores seven topics (social factors in medicine, paramedical cooperation, preventive medicine, doctor-patient relations, government role, general liberalism, and social desirability) but is not mainly focusing on attitudes toward diversity.

None of these instruments, however, was designed to measure attitudes toward cultural diversity in active physicians. In addition, psychometric evaluation was lacking or not discussed in most of the articles reviewed. Therefore, we developed a new instrument to measure physicians' attitudes and perceptions towards cultural diversity in health care and provide an evaluation of its psychometric properties.

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Methods

Initial Development of the Instrument.

Based on the literature,[1,3,4] we decided on general themes for the instrument. These were (1) physicians' opinions about cultural diversity and health care, (2) physicians' perceptions about the task of working with minority patients, and (3) physicians' ideas about communicating with minority patients. These themes were discussed with an internal expert panel of physicians, psychologists, and sociologists involved in primary health care and, more specifically, in provider-patient communication and social inequalities to decide on the content and the wording of survey items.

This resulted in a 30-item questionnaire that was sent to a second, external expert panel for panel members' opinions on the questionnaire's content validity and face validity. The external expert panel consisted of 11 professionals with expertise in research and teaching on cultural diversity in health care. After integrating comments from the second panel, an instrument of 25 questions was sent to the pilot group.

Selection of the Pilot Group and Data Collection

The pilot group was selected by contacting regional peer-review groups of family physicians. In the first stage of recruitment, an invitation was sent to the chairperson of 40 groups, asking them to present the questionnaire at their next meeting and to ask members to complete it. Five chairpersons were willing to participate, resulting in 28 completed questionnaires. Subsequently, the one member of the project team personally presented and explained the project at peer-review group meetings. This results in a much higher response; of all physicians attending these meetings, only two decided not to participate. This resulted in a total of 112 participating family physicians.

Questionnaire Administration

Together with the developed instrument, three previously validated scales were administered. These were the Jefferson Empathy Scale, the Patient Practitioner Orientation Scale, and the Health Beliefs and Attitudes Scale.

The Jefferson's Empathy Scale (Hojat et al)[15-17] has been largely tested to estimate physicians' attitudes toward empathy and consists of four dimensions. These dimensions are (1) recognizing patients' emotions, (2) understanding patients' perspective, (3) understanding patients' context, and (4) thinking like the patient.

The Patient Practitioner Orientation Scale (PPOS)[18-21] was developed to measure physicians' patient-centered behavior and has been used in several studies. It considers a "caring" and a "sharing" dimension.

The Health Beliefs and Attitudes Scale (HBAS) by Dobbie et al[11] was initially developed to determine changes in students' attitudes toward cultural competences. It consists of four factors: (1) importance of assessing patients' perspectives and opinions, (2) importance of determining patients' beliefs for history taking and treatment, (3) importance of assessing patients' psychosocial and cultural context, and (4) importance of knowing the patients' perspective for providing good health care.

Data Analysis

An exploratory factor analysis (PCA with Varimax rotation and Kaiser normalization) was performed on the 25-item questionnaire. Because of the lack of a gold standard to measure cultural diversity, construct validity became an important aspect of the validation. Construct validity tests for associations between items of a new scale with theoretically related concepts. Convergent construct validity tests the hypothesis that scores on the new scale will positively correlate with scores on the related scale. Therefore, scores on three other scales (the Jefferson's Empathy Scale, the Patient Practitioner Orientation Scale, and the Health Beliefs and Attitudes Scale) were compared to the results of the new instrument. We used a one-way Anova to test for correlations between factors of the scale and practice location and organization.

Known-group construct validity is used to test correlations between scores on the subscales and groups based on participants' demographic properties. Since there is evidence for the relationship between attitudes toward cultural diversity and practice organization, scores on the instrument will be related to data on practice organization. Paez et al[22]showed that providers working in a more culturally competent clinic (ie, following the Culturally and Linguistically Appropriate Services standards) had more culturally competent attitudes and behaviors.

Besides this, research confirms gender differences: female medical students and physicians show more positive attitudes toward cultural diversity.[18, 23-25] Therefore, to test known-group validity and since many of the items in the new instrument consider communication aspects, correlations with gender were examined.

Scales that measure the concepts of patient centeredness, empathy, and taking into account patients' context, all linked to the concept of cultural competencies, were compared to the results of the new questionnaire. Correlation tests between these scales and the new scale were performed, using Pearson correlation scores.

Results

Provider Characteristics

A total of 112 questionnaires were completed. Characteristics of the respondents are described in Table 1. The average number of contacts per week with minority patients ranged from less than 10 (66%) to between

Table 1

Provider Characteristics

	n (%)
Gender	
Men	68 (60.7)
Women	41 (36.6)
Missing	3(2.7)
Total	112 (100.0)
Practice organization	
Single-handed practice	37 (33.0)
Duo-working	22 (19.6)
Group	30 (26.8)
Community health center	14 (12.5)
Other	6 (5.4)
Missing	3 (2.7)
Practice location	
Urban	24 (21.4)
Small town	35 (31.2)
Rural	53 (47.3)
Age	
25–35	34 (30.6)
36–45	18 (16.2)
46–55	37 (33.3)
56–65	22 (19.8)

10 and 40 (16 %) to more than 40 (18%). None of the physicians belonged to a minority group. Physicians worked either in single-handed, two-physician or group practice, or community health centers. The latter are located in socially disadvantaged neighborhoods with a large minority population.

Factor Analysis

To obtain the best possible and fitting model on the factor analysis, items that had low communalities (the percentage of the variance in a variable explained by all factors) and that were not fitting the model well were deleted. When items loaded onto more than one component, they were only included in the component with the highest loading. After factor analysis, seven of the questions that had either low factor loadings (below .4) or low communalities or were not matching the content of the factor were deleted from the instrument.

Three components could be extracted in the factor analysis. The first factor consisted of 10 items with a factor coefficient greater than .4, accounting for 26.2% of the explained variance (eigenvalue=4.75). All items (Table 2) were about what physicians think is important to know and do when dealing with cultural diversity in their work. This factor can be described as physicians' task perception and ideas on cultural differences in health and health care.

The second factor was physicians' attitudes toward physician-patient communication with minority patients. Six items had factor loadings over .4. Variance explained by this factor was 16.2% (eigenvalue=2.9).

The third factor describes the physicians' perception of minority patients' needs in communication. It consisted of two items with an 8.1% explained variance (eigenvalue=1.4).

These three factors accounted for 50.5% of total variance. Reliability (Cronbach's alpha) for the first component alpha was .825 and .785 for the second . For the third component, only two questions loaded, and no Cronbach's alpha could be calculated.

Construct Validity

Significant associations were found between the first factor (physicians' task perception and ideas on cultural differences in health and health care) and practice organization: physicians working in a community health centre scored significantly higher on items of this first factor, indicating a more positive attitude toward cultural competence (Table 3). Significant correlations were also found between practice location and scores on the first factor, showing that physicians who work in an urban region score higher on items about task perception than colleagues from small-town areas. However, no relationship was found between scores of urban and rural physicians. Independent *t* test scores on the second factor (communication with minority patients) showed significantly higher scores in female physicians (Table 4).

Correlations With Other Instruments

The first factor (physicians' task perception and ideas on cultural differences in health and health care) correlated significantly with all four factors of the HBAS and with the three first factors of the empathy scale. No significant correlations were found with the fourth empathy factor. When comparing results with the PPOS scale, correlations were found with the "caring" factor but not with the "sharing" factor.

For the second factor (physicians' attitudes toward communication with minority patients), correlations were found with the first two factors of the HBAS and with the first factor of the Jefferson's Empathy Scale. No correlations were found with the PPOS scale. The third factor showed no significant correlations with any of the other scales.

Discussion

In the instrument we developed to measure physicians' attitudes and perceptions towards cultural diversity in health care, three subscales emerged and the instrument showed moderate to good reliability. Items in the subscale of the first component of the instrument, described as physicians' task perceptions and opinions

Table 2

Factor Analysis

Factor 1 (α=.825) **Physicians' task perception and ideas on cultural differences in health and health care**	*Factor 1*	*Factor 2*	*Factor 3*	*α if Item Is Deleted*
Physicians should accept culturally bound illness practices of the patients, provided that it does not put the patient's health at risk.	.721	.026	.202	.800
Physicians should be aware of the cultural identity of each patient.	.705	.187	.235	.821
Physicians should feel free to refuse a patient merely on the basis of his or her cultural background.	.574	-.264	-.126	.794
Physicians have a moral duty toward taking care of refugees.	.744	.010	.091	.795
Physicians should be empathic toward every patient, even if they have completely different opinions.	.519	-.010	.065	.822
Physicians should have a broad knowledge of social and human sciences.	.562	.373	.099	.808
Physicians should be trained in cultural and social differences in health.	.510	.313	.505	.806
Patients' social background determines their health.	.572	.195	.064	.812
Physicians should treat every patient equally no matter what his or her social or cultural background is.	.713	-.089	-.101	.808
The community to which someone belongs is important for the way this person deals with his/her health.	.466	.449	.076	.816
Factor 2 (α=.785) **Physicians' attitudes toward physician-patient communication with minority patients**				
The communication between physicians and patients is facilitated when they share the same cultural background.	.034	.806	-.116	.712
More physicians belonging to minority groups will gain better health care for minority patients.	-.031	.565	.291	.782
Patients' social background determines the way they communicate with physicians.	.280	.437	-.466	.786
The communication between physicians and patients is facilitated when they share the same social background.	-.151	.787	-.221	.715
The communication with patients with a different social or cultural background is worse.	.000	.763	-.079	.726
Physicians' social background determines the way he or she communicates with patients.	.290	.644	.166	.763
Factor 3 **Physicians' perception of minority patients' needs in communication**				
Minority patients prefer a paternalistic consulting style.	.107	-.006	.562*	*
Some patients don't need information, because they wouldn't understand it.	.132	-.050	.770*	*

Extraction method: Principal Component Analysis
Rotation method: Varimax with Kaiser Normalization.
Cronbach's alpha total scale=.744
* Alpha cannot be calculated

towards minority patients, correlated significantly to practice organization and practice location. Community health centers are often located in deprived urban areas and show higher representations of minority groups in both patient population and staff. Their policy aims at providing high-quality care to a very diverse patient group with diverse needs and expectations. This suggests that the more attention that is paid in the working environment to cultural diversity, the more culturally aware physicians become. The possibility exists, however, that physicians who chose to work in a community health center are already more culturally aware before they start working there, thus biasing the results.[26]

Correlation analysis also showed associations between the first two subscales and the related concepts of patient centeredness and taking into account patients' context and empathy, confirming theory that relates cultural awareness to patient centered and empathic communication attitudes and skills.

Gender differences in the scores of the subscale on communication confirm previous research that female doctors show more positive attitudes toward communication.[18,23-25]

The subscales that were found accounted for 50.5% of the variance, implicating that variance in attitudes toward diversity is partly accounted for by the items in this instrument and that the instrument partially explains the concept that it intended to measure.

Several other instruments have also recently been developed to measure cultural awareness. For example, Kutob et al[10] developed the Cultural Competence Assessment Tool, a self-assessment tool to evaluate the

Table 3

Correlation With Type of Practice (Individual, Group Practice, Community Health Center), Practice Location, and Gender

	*Factor 1**		*Factor 2***		*Factor 3****	
	Mean (SD)	P *Value*	*Mean (SD)*	P *Value*	*Mean (SD)*	P *Value*
Practice organization†						
Community Health Centre (n=14)	4.58 (.34)	—	3.43 (.69)	—	3.36 (.87)	—
Group working practice (n=52)	4.10 (.57)	.01	3.31 (.77)	.70	3.32 (.83)	.99
Solo working practice (n=37)	4.10 (.46)	.01	3.34 (.80)	.83	3.27 (.93)	.66
Practice location†						
Urban (n=24)	4.35 (.51)	—	3.37 (.59)	—	3.33(.79)	—
Small town (n=35)	3.97 (.57)	.02	3.4 (.73)	.94	3.38 (.97)	.96
Rural (n=53)	4.16 (.49)	.30	3.28 (.86)	.81	3.26 (.84)	.88
Gender††						
Male (n=67)	4.2 (.54)	.55	2.9 (.69)	.03	3 (.45)	.28
Female (n=39)	4.1 (.47)	—	3.3 (.83)	—	3.1 (.50)	—

* Physicians' task perception and ideas on cultural diversity in health
** Physicians' attitudes toward physician-patient communication with minority patients
*** Physicians' perception of minority patients' needs in communication
† One way Anova test with posthoc comparisons (Sheffe)
†† Independent sample *t* test

Table 4

Construct Validity: Pearson Correlation Scores With Health Beliefs and Attitudes Scale, Jefferson's Empathy Scale, and Patient Practitioner Orientation Scale

	Factor 1[1]	P *Value*	*Factor 2*[2]	P *Value*	*Factor 3*[3]	P *Value*
HBAS[4] factor 1[a]	.42**	.00	.38**	.00	.09	.37
HBAS factor 2[b]	.12	.25	.32**	.001	.04	.72
HBAS factor 3[c]	.34**	.00	.20*	.04	.16	.11
HBAS factor 4[d]	.3**	.002	.07	.48	-.13	.19
Jefferson[5] Factor 1[e]	.28**	.004	.26*	.01	.11	.27
Jefferson Factor 2[f]	-.37**	.00	-.05	.64	-.22*	.02
Jefferson Factor 3[g]	-.46**	.00	.15	.14	.04	.70
Jefferson Factor 4[h]	.03	.80	.15	.13	.08	.40
PPOS[6] Sharing	-.14	.18	-.18	.08	-.26**	.008
PPOS Caring	-.514**	.00	-.04	.69	-.07	.47

1—Physicians' task perception and ideas on cultural diversity in health, 2—Physicians' attitudes toward physician-patient communication with minority patients, 3—Physicians' perception of minority patients' needs in communication, 4—Health beliefs and attitudes scale[19], 5—Jefferson's empathy scale[23], 6—Patient Practitioner Orientation scale[20]

[a]—Importance of assessing patients' perspectives and opinions, [b]—Importance of determining patients' beliefs for history taking and treatment, [c]—Importance of assessing patients' psychosocial and cultural context, [d]—Importance of knowing the patients' perspective for providing good health care, [e]—Recognizing patients' emotions, [f]—Understanding patients' perspective, [g]—Understanding patients' context, [h]—Thinking like the patient.

* $P \leq .05$
** $P \leq .01$

effectiveness of a cultural competence course. Self measurement instruments like ours and like that of Kutob are potentially susceptible to social desirability bias, and this is a limitation of our study. Chances of such bias become even more likely when asking questions about socially sensitive topics, such as cultural diversity and awareness, stereotyping, and discrimination. As a consequence, it becomes more difficult to draw conclusions or make statements on attitudes based solely on self-administered instruments.

A more accurate image of a person's attitudes might be obtained by measuring not only explicit but also implicit attitudes, since both can be predictive of behavior. Recently, the importance and knowledge of implicit measurements has gained importance.[27] Such information on attitudes, ideas, and perceptions of medical professionals toward cultural diversity can help us understand why communicating with minority groups is still a problem in many consultation rooms. As mentioned above, physicians' attitudes are only part of the explanatory mechanisms that contribute to these difficulties, besides patient and (very important) societal factors.

Further validation studies would be useful, especially since our sample size was rather small, and a substantial proportion of the respondents had relatively little experience in working with minority patients. Therefore, testing on a larger group with a more equal distribution of demographic determinants such as practice location and physicians' experience could improve reliability. Future validation studies should pay more attention to the diversity within the sample population and to the differences in attitudes toward cultural awareness and competences between minority and majority physicians. Also, testing the instrument in other regions of the world where attitudes might be different due to a more diverse physician population might increase generalizability. Finally, relating scores on this scale and on implicit measures to actual communicative behavior with ethnic minority patients could help us understand the actual impact of attitudes on physicians' behavior with minority groups.

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