Primary Health Care Research & Development 2015; **16:** 506–512
doi:10.1017/S1463423614000413

RESEARCH

Validation of a patient-centered culturally sensitive health care office staff inventory

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Aim/Background: Research suggests that patient-perceived culturally sensitive health care encompasses multiple components of the health care delivery system including the cultural sensitivity of front desk office staff. Despite this, research on culturally sensitive health care focuses almost exclusively on provider behaviors, attitudes, and knowledge. This is due in part to the paucity of instruments available to assess the cultural sensitivity of front desk office staff. Thus, the objective of the present study is to determine the psychometric properties of the pilot Tucker-Culturally Sensitive Health Care Office Staff Inventory-Patient Form (T-CSHCOSI-PF), which is an instrument designed to enable patients to evaluate the patient-defined cultural sensitivity of their front desk office staff. **Methods:** A sample of 1648 adult patients was recruited by staff at 67 health care sites across the United States. These patients anonymously completed the T-CSHCOSI-PF, a demographic data questionnaire, and a patient satisfaction questionnaire. **Findings:** Confirmatory factor analyses of the TCSHCOSI-PF revealed that this inventory has two factors with high internal consistency reliability and validity (Cronbach's αs = 0.97 and 0.95). **Conclusions:** It is concluded that the T-CSHCOSI-PF is a psychometrically strong and useful inventory for assessing the cultural sensitivity of front desk office staff. This inventory can be used to support culturally sensitive health care research, evaluate the job performance of front desk office staff, and aid in the development of trainings designed to improve the cultural sensitivity of these office staff.

Key words: cultural competence; cultural sensitivity; health care delivery/health services research; health disparities; patient-centered care

Received 21 December 2013; revised 3 April 2014; accepted 2 October 2014; first published online 8 December 2014

Introduction

Provision of patient-centered culturally sensitive health care (PC-CSHC) has been highlighted as a best practice approach for reducing health disparities. PC-CSHC is defined as health care that embodies the characteristics identified by culturally diverse patients as enabling them to feel comfortable with, trusting of, and respected by their health care providers, office staff, and health care environment (Tucker *et al.*, 2011).

While the importance of PC-CSHC is rarely disputed, there is a lack of instruments that reliably measure PC-CSHC; furthermore, there are no known published measures that exclusively assess the cultural competence or sensitivity of front desk office staff.

The majority of available research pertaining to cultural competence and cultural sensitivity focuses exclusively on health care providers. Provider cultural sensitivity has been positively associated with patient satisfaction (Harris *et al.*, 1995; Joffe *et al.*, 2003; Beach *et al.*, 2006) However, such studies encompass much more than isolated

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https://doi.org/10.1017/S1463423614000413 Published online by Cambridge University Press

patient-provider interactions. On average, patients seeking outpatient care spend ~19 min with their providers and considerably more time in office waiting areas (Mechanic, 2001). Front desk office staff members serve as the first and last points of contact for patients during health care visits. Additionally, front desk office staff members regularly collect sensitive health information from patients such as the nature of the visit and personal health histories. Furthermore, front desk office staff members often communicate messages between patients and providers that include information pertaining to health concerns, treatment recommendations, and medical referrals.

Tucker *et al.* (2003) found, through focus groups with culturally diverse adults, that the behaviors, attitudes, and knowledge of front desk office staff were major influences on these adults' perceptions regarding what constitutes PC-CSHC. Sofaer and Firminger (2005) also confirmed the important role of front desk office staff in patient-perceived culturally sensitive health care.

Despite these findings there is a paucity of research pertaining to front desk office staff in health care delivery and no known published studies have investigated the cultural sensitivity of these staff members. This fact is in part due to the lack of reliable and valid measures to assess this cultural sensitivity. The pilot Tucker – Culturally Sensitive Health Care Office Staff Inventory – Patient Form (T-CSHCOSI-PF) is a practical 18-item inventory designed for patients to complete to evaluate the patient-defined cultural sensitivity of front desk office staff.

The pilot T-CSHCOSI-PF is novel in that its items are generated by culturally diverse patients – the individuals who are the true experts on the specific behaviors, attitudes, and knowledge that demonstrate cultural competence and sensitivity (Mirsu-Paun *et al.*, 2010). Specifically, the items on the T-CSHCOSI-PF are based on data obtained from focus groups with racially/ethnically diverse patients (ie, African American, Hispanic/Latino, and non-Hispanic white patients) in which these patients were asked to identify specific office staff behaviors and attitudes that enable them to feel comfortable with, respected by, and trusting of their health care office staff. After collecting this focus group data, an independent sample of racially/ethnically diverse patients rated the importance of the items using a 1–5 rating scale. Only the items with mean ratings of 3 or higher were used to construct the pilot T-CSHCOSI-PF (Tucker *et al.*, 2007). Therefore, the T-CSHCOSI-PF is a patient-centered inventory. This patient-centered approach is novel in that it addresses known limitations of existing cultural competence and sensitivity measures by (1) including items that are data based and (2) developing the inventory based on the perspective of patients rather than the perspective of health care researchers and professionals (Mirsu-Paun *et al.*, 2010).

The specific objectives of the present study are to: (a) confirm the factor structure of the pilot T-CSHCOSI-PF, (b) determine the internal consistency of the resulting T-CSHCOSI-PF factor(s)/subscale(s), and (c) examine the construct validity of the T-CSHCOSI-PF by analyzing the correlation between patients' scores on this inventory and their scores on a measure of patient satisfaction.

Methods

Participants

Study participants were 1648 patients from among 67 health care sites that represent the four major geographical regions in the United States (ie, Northeast, Southeast, West, and Mid-West). Of the 67 health care sites recruited, 71.4% were community health care centers, 12.5% were private practices, 7.1% were health departments, 5.4% were hospitals, and 3.6% were other types of health care sites (eg, halfway houses for rehabilitation). Participant inclusion criteria included: (a) being at least 18 years old; (b) being a patient at one of the participating health care sites for at least one year; (c) being able to communicate either verbally or in written form in English or Spanish; and (d) signing an informed consent form to participate in the study.

The participant sample was ethnically diverse; specifically, 19% were African American, 35% were White American, 33% were Hispanic, and 13% were of Other/Non-specified race/ethnicity. The sample includes 1052 women, 527 men, and 69 participants who did not report their gender. This gender distribution represents national trends in health care utilization, as women are more likely than men to seek and utilize medical care (Owens, 2008; Cohen and Bloom, 2010). Additional demographic information is included in Table 1.

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Table 1 Descriptive characteristics of the total participant sample

Characteristic	*n*	%
Age (years)		
18–24	275	16.7
25–34	331	20.1
35–44	343	20.8
45–54	365	22.1
55–64	203	12.3
65 or older	81	4.9
Not reported	50	3.1
Household income		
<10 000	617	37.4
10 000–20 000	368	22.3
20 001–30 000	203	12.3
30 001–40 000	97	5.9
40 001–50 000	54	3.3
50 001–60 000	89	5.4
Not reported	220	13.3
Employment		
Work full-time	512	31.3
Work part-time	296	18.0
Do not work	748	45.4
Not reported	92	5.6
Marital status		
Single living without a partner	532	32.3
Single living with a partner	297	18.0
Married living with a partner	477	28.9
Married not living with a partner	62	3.8
Divorced or separated	138	8.4
Widow/widower	63	3.8
Non-specified	79	4.8

Measures

Patient volunteers confidentially completed an assessment battery that included a Demographic Data Questionnaire (DDQ), the pilot T-CSHCOSI-PF, and the Patient-Satisfaction Questionnaire – Short Form (PSQ-18).

The DDQ was created by the principal investigator for the present study to collect general demographic information on each participant including age, gender, race/ethnicity, marital status, household income, level of education, and employment status.

The pilot 31-item T-CSHCOSI-PF assesses patients' perceived levels of patient-centered cultural sensitivity among front desk office staff. In this inventory, patients are asked to rate how much they agree that the front desk office staff members at their health care center or office show the listed characteristics and behaviors. All items are rated on a Likert scale ranging from 1 = strongly disagree to 4 = strongly agree.

The Patient Satisfaction Questionnaire – Short Form is an 18-item scale that assesses seven different dimensions (subscales) of patient satisfaction with medical care (Owens, 2008). For this study, the general satisfaction and accessibility and convenience subscales were selected to help determine the validity of the T-CSHCOSI-PF, as these two scales capture the health care attributes most closely related to office staff members' cultural sensitivity. Items on each subscale of the PSQ-18 are rated on a Likert scale ranging from 1 = strongly agree to 4 = strongly disagree. In an ethnically diverse sample, these three subscales demonstrated acceptable internal consistency reliability (Marshall and Hays, 1994).

Procedure

After Institutional Review Board (IRB) approval for this study was obtained, internet searches were used to identify health care organizations and sites located in the four major geographical regions of the United States. Health care sites that agreed to participate obtained IRB approvals at their respective sites and identified a staff person to serve as a data collection coordinator (DCC). The DCC was responsible for identifying two community members to serve as data collectors. The DCC was mailed all study materials pertaining to participant recruitment and study implementation. Training on recruitment and study implementation was conducted via telephone.

Data collectors recruited participants by disseminating flyers to patients in the waiting rooms at their respective health care sites. Research participation involved reading and signing an informed consent form, completing a set of questionnaires (which took ~45 min), and placing the set of completed questionnaires in the provided envelope. Following the data collection at each health care site, the DCC at that site collected the signed consent forms and the envelopes that contained the completed questionnaires and mailed both to the researchers. Questionnaires were kept separate from consent forms to maintain participant confidentiality.

Results

Data analyses were performed to determine the factor structure, reliability, and validity of the pilot

https://doi.org/10.1017/S1463423614000413 Published online by Cambridge University Press

Table 2 Standardized factor loadings for the 18-item confirmatory factor analysis on normalized TSCHCI-OS items, using full-information maximum likelihood estimation ($n = 1648$)

	Sensitivity/interpersonal skill	Professionalism/punctuality/ responsiveness
OS Item 1, friendly, pleasant	0.892	
OS Item 2, helpful	0.906	
OS Item 3, polite	0.916	
OS Item 4, act professionally	0.901	
OS Item 5, welcoming	0.899	
OS Item 6, have people skills	0.880	
OS Item 11, respectful	0.878	
OS Item 12, me as person, not number	0.860	
OS Item 16, don't look down on me	0.811	
OS Item 23, pay attention to me		0.843
OS Item 24, listen to my complaints		0.845
OS Item 25, know my name		0.753
OS Item 26, admit quickly after sign-in		0.760
OS Item 27, take care of me as I enter waiting room		0.813
OS Item 28, see me at time of appt		0.767
OS Item 29, quick processing of paperwork		0.843
OS Item 30, let know if any changes to record		0.801
OS Item 31, more effort to see patients, not answer calls		0.791

Note: All loadings significantly greater than zero, $P < 0.001$.

T-CSHCOSI-PF. An initial examination of item distributions indicated that all items were negatively skewed and positively leptokurtic, reflecting endorsement of higher levels of agreement on most items. Given these departures from normality, Blom14 transformation was used to reduce skewness and kurtosis for all items. Skewness remained significant for most variables although it was generally reduced by 50% or more for all variables; however, kurtosis was no longer significant. Next, three randomly constituted item parcels were created. The parceling approach was selected to preserve the internal consistency of the expected factors (Little *et al.*, 2002). Finally, using these three item parcels, a confirmatory factor analysis of a proposed three-factor structure was performed (Arbuckle, 2007). A preliminary extraction of three factors indicated that the third factor explained minimal incremental variance (3%), and had only three indicators with factor loadings in excess of 0.50. Subsequently, an 18 item, two-factor solution was explored, and this explained 68% of the total variance in the indicators. Finally, a confirmatory factor analysis was conducted of the proposed 18-item, two-factor structure using full information maximum likelihood of the available sample. Model fit was generally adequate to excellent. The model χ^2 statistic was significant [c2(134) = 1751.82, $P < 0.001$], and was more than twice the model degrees of freedom (c2/df ratio = 13.07). All fit indices exceeded 0.9 (NFI = 0.94, RFI = 0.92, IFI = 0.94, TLI = 0.93, CFI = 0.94). The RMSEA was 0.09, which was significantly greater than the criterion value 0.05 ($P < 0.001$). Thus, most indicators were suggestive of adequate model fit. All factor loadings were significantly greater than zero. The two factors were correlated, $r = 0.81$. Table 2 shows the standardized factor loadings for the estimated solution, which were all significantly greater than zero.

Internal consistency (Cronbach's α) was computed using the Blom-transformed scores for the 18-items that were retained for the two-factor solution. The T-CSHCOSI-PF evidenced excellent internal consistency reliability for the Sensitivity/Interpersonal Skill subscale ($\alpha = 0.97$), the Professionalism, Punctuality and Responsiveness subscale ($\alpha = 0.95$), and the total measure ($\alpha = 0.97$).

A Pearson correlation analysis was conducted to examine the association between (a) the factor mean scores for the two factors comprising the T-CSHCOSI-PF (ie, the mean scores for the sensitivity and interpersonal skills subscale and for the professionalism, punctuality, and responsiveness

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subscale), and (b) the subscale mean scores for two relevant subscales of the PSQ-18 (ie, mean scores for the general satisfaction subscale and the accessibility and convenience subscale). Results revealed significant positive correlations between the mean scores for the two factors of the T-CSHCOSI-PF and the subscale mean scores for the two relevant subscales of the PSQ-18. Specifically, the mean score of the sensitivity/interpersonal skill subscale of the T-CSHCOSI-PF had a significant positive correlation with both the mean general satisfaction subscale of the PSQ-18 ($r = 0.37$, $P < 0.001$) and the mean accessibility and convenience subscale of the PSQ-18 ($r = 0.31$, $P < 0.001$). Additionally, the mean score of the professionalism, punctuality, and responsiveness subscale of the T-CSHCOSI-PF had a significant positive correlation with the mean general satisfaction subscale of the PSQ-18 ($r = 0.39$, $P < 0.001$) and the accessibility and convenience subscale of the PSQ-18 ($r = 0.37$, $P < 0.001$). The finding that these significant correlations fall between 0.3 and 0.4 indicates that there is both the expected positive association between cultural sensitivity and patient satisfaction, but that there is also substantial unique variance between the two constructs.

Discussion

Health care research often highlights the importance of cultural sensitivity, yet fails to provide guidance in defining and assessing cultural sensitivity. Additionally, cultural sensitivity is almost always discussed in reference to health care providers, ignoring the patient care that is provided by the front desk office staff. The pilot T-CSHCOSI-PF was developed as a tool for enabling patients to evaluate the cultural sensitivity of front desk office staff. The psychometric properties of the T-CSHCOSI-PF were investigated in the present study.

Factor analyses revealed two subscales of the T-CSHCOSI-PF that total 18 items, which is practical in regard to length. The total measure and the two subscales were found to have excellent internal consistency reliability and validity. These findings support use of the T-CSHCOSI-PF by patients to evaluate the cultural sensitivity of health care office staff. This patient feedback data can be used by the appropriate health care staff and/or consultants to develop cultural sensitivity trainings for health care office staff that has potential for improving the health care satisfaction of patients who experience this care. Such an outcome is important given that patients' health care satisfaction has been positively associated with patient treatment adherence and clinical outcomes (Arbuckle, 2007; Street *et al.*, 2009, Tucker *et al.*, in press).

Giving patients the opportunity to complete the T-CSHCOSI-PF may also promote their health self-efficacy. Increased health self-efficacy among patients is a desirable outcome given that patient self-efficacy has been associated with higher levels of health care satisfaction and improved health outcomes (Utz *et al.*, 1994). Furthermore, engagement of patients in the health care process (eg, having patients complete the T-CSHCOSI-PF) has been linked to improved clinical outcomes (Rocco *et al.*, 2011).

Given that financial incentives often drive health care quality improvements, it is important to note that use of the T-CSHCOSI-PF may also increase a health care organization's profits and/or decrease its care-related costs. Brach and Fraser (2002) highlighted the financial incentives associated with providing culturally competent/sensitive health care. These incentives include increased market share by appealing to minority consumers and enhanced appeal to public purchasers, as culturally competent/sensitive care is associated with increased prevention services, more appropriate care, and fewer unnecessary screenings and treatments.

Limitations and strengths

There are three notable limitations of the current study. First, this study only collected data from patients who were currently attending a health care site. Therefore, patients who may have been dissatisfied with their care and did not return and patients' who do not receive regular health care may not be represented in the present study. The second limitation is that health care sites were not randomly selected. Given the difficultly in recruiting such a large number of health care sites from across the United States, multiple rather than random recruitment strategies were necessary. The third limitation is that the T-CSHCOSI-PF is a self-report inventory. Self-report measures may

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potentially encourage socially desirable responses, such as under-reporting or over-reporting the occurrence of the behaviors and attitudes that are listed on the T-CSHCOSI-PF. However, self-report measures are commonly used in health care quality research and are often preferred for their comprehensiveness, convenience, and cost-effectiveness (DiMatteo, 2002).

The present study also has important strengths, including (a) the large number of participating health care sites, (b) the inclusion of a variety of health care sites from diverse geographic locations across the United States, and (c) a large sample of culturally diverse patient participants. Additionally, health care sites were included that serve low-income patients and racial/ethnic minority patients – groups that are often underrepresented in health care quality research.

Future directions

The provided evidence of the strong psychometric properties of the T-CSHCOSI-PF supports conducting further research to establish its validity and reliability when used by various patients in diverse health care settings multiple times over an extended period of time and after the inventory has been translated into multiple different languages. Such research will further ensure use of the T-CSHCOSI-PF in health care sites. The resulting data may inform evaluations of front desk office staff as well as the development of culturally sensitive health care training for these staff. Such training has the potential to improve health care services to culturally diverse patients and increase health care utilization by underserved populations.

Acknowledgment

Gabriel Linn served as editorial assistant in the preparation of this manuscript.

Financial Support

This work was supported by Robert Wood Johnson Foundation (Grant # 59281).

Conflicts of Interest

None.

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