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Abstract: *The purpose of this study was to identify prerequisites to providing culturally competent care to Mexican migrant farmworkers. A national sample of nurse experts who worked with Mexican migrant farmworkers (N = 93 [50.2%] in round 1; and N = 142 [54.8%] in round 2) participated during the period of August 1998 to April 1999. Using a two-round modified Delphi method, a list of 89 items was generated. The nurse experts agreed that the 89 items identified were prerequisites to cultural competence, showing consensus rates of 85.4% in round 1 and 88.8% in round 2. The prerequisites to culturally competent care identified by participants encompassed caring, cultural sensitivity, cultural knowledge (general/specific), cultural abilities/skills, and others (bi-cultural status; cultural and learning experiences).*

Key Words: *Mexican Migrant Farmworkers; Culturally Competent Care; Caring; Cultural Sensitivity; Cultural Knowledge; Cultural Abilities/Skills; Delphi Method*

PREREQUISITES TO PROVIDING CULTURALLY COMPETENT CARE TO MEXICAN MIGRANT FARMWORKERS: A DELPHI STUDY

Mexicans are the largest group of migrant farmworkers in the United States, comprising up to 94% of the foreign-born migrant farmworker labor force (US Department of Labor [DOS], 1997). Like other migrant farmworkers, Mexi-

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can migrant farmworkers (MMF) lag behind other population groups on virtually all health status indicators. The migratory lifestyle and low socio-economic status of MMF are major barriers to health care (National Advisory Council on Migrant Health [NACMH], 1997; Weinman, 1999). Moreover, lack of cultural competence by health care professionals in the provision of care is a significant deterrent to their use of health care services (Holland & Courtney, 1998; Sandhaus, 1998).

BACKGROUND

Migrant farmworkers in the United States have primarily immigrated from Mexico, Puerto Rico, and Central America (Bechtel, Davidhizar, & Spurlock, 2000). Only a few of these workers are indigenous Native Americans, African Americans and whites (National Center for Farmworker Health [NCFH], 2001). Approximately 37% of migrant farmworkers comprise an invisible workforce because they are undocumented migrants ("DOL Issues New Demographic Report," 1997).

In the U.S., there are three major migrant routes or "streams" of travel: the East Coast, the Midwest, and the West Coast (Castiglia, 1997). A total of 136 Migrant Health Centers with 400 clinic sites deliver care to migrant and seasonal farm workers (Migrant Clinicians Network [MCN], 2001). However, these federally funded migrant health centers currently serve only 12% to 15% of migrant farmworkers nationwide because of their migratory style, lack of transportation, and inability of many farmworkers to afford the loss of a day's pay (MCN, 2001).

The life of migrant farmworkers and their families is harsh. These farmworkers travel from early spring until late fall harvesting a variety of crops. Fieldwork in one location may last for several weeks or only a few days (Eshleman & Davidhizar, 1997). Some workers must live apart from their families while other workers, especially in the Midwest migrant stream, travel with their entire family (NCFH, 2001). The men and their families travel with a few basic clothes and household articles packed into crowded trucks, vans, and cars. If unable to travel, they are laid off for days or even weeks (Eshleman & Davidhizar, 1997). They earn the minimum wage or less, depending on work conditions. Most family members, including children, work in the fields to increase family earnings (NACMH, 1997).

Migrant farmworkers have one of the highest work-related injury, morbidity, and mortality rates in the United States. Their average life expectancy is 49 years, compared to the national average of 77.3 years (Sandhaus, 1998, US CIA, 2001). Farming is one of the most accident-prone industries in the United States. For example, the occupational fatality rate for all private sector industries is 4.3 per 100,000 full-time employees; however, the rate for the broad category of agriculture, forestry, and fishing was 23.9 (NCFH, 2001). Many health problems suffered by farmworkers are related to their occupation and substandard, overcrowded conditions, including dehydration, communicable diseases, heat stroke, parasitic infections, digestive disorders, dermatitis, depression, musculoskeletal problems, respiratory problems, unintentional injuries, and accidental death (Bechtel et al., 2000; Larson, 2001; NCFH, 2001).

PURPOSE

Nurses need to provide culturally congruent care to MMF and their families, but unfortunately, differences between the culture of migrants and nurse providers are barriers to care (NACMH, 1997). In the United States, 87.7% of registered nurses are non-Hispanic Euro-American with 4.9% being African American, 3.5% being Asian, 2.0% being Hispanic, and 0.5% being Native American (US Department of Health and Human Services [DHHS], 2001). Without awareness of cultural differences, the Western values of individualism, autonomy, independence, self-reliance, and self-control may conflict with Mexican clients' cultural values. In addition, nurses need to recognize and understand how culture, economic conditions, social context, and envi-

ronments influence specific health needs and health status of MMF.

Provision of culturally competent care to MMF involves not only being aware of cultural differences, but also responding to socio-economic conditions influencing MMF's health status. Although the need for culturally competent care has been addressed in nursing literature for over decades in the United States (Leininger, 1995), little is known about the cultural sensitivity, knowledge, and abilities/skills needed to provide culturally competent care to MMF.

Therefore, this study was conducted to survey nurses with expertise in MMF care to identify prerequisites to providing culturally competent health care to MMF.

METHODOLOGY

A modified two-round Delphi national survey was conducted with nurses with expertise in Mexican migrant care. The characteristics of the Delphi method are anonymity among participants, iteration with controlled feedback and statistical group response (Hasson, Keeney, & KcKenna, 2000; Moreno-Casbas, Martin-Arribas, Orts-Cortes, & Comet-Cortes, 2001). The Delphi technique is considered to be an efficient and cost-effective method for the purpose of seeking consensus from a group of respondents who never meet. The Delphi technique is also useful for generating, analyzing and synthesizing expert opinion on controversial issues (Hasson et al., 2002). Therefore, the method ensures that any one persuasive or prestigious expert cannot have an undue influence on the opinions of others, as could happen in a face-to-face situation (Moreno-Casbas et al., 2001). Considering the current over-emphasis on partial components (e.g., bilingual ability, bicultural status, or cultural knowledge) of cultural competence among migrant health experts, the Delphi method was chosen to compile diverse experts' opinions about prerequisite components of cultural competence. The study was approved by the University of South Carolina Institutional Review Board. An explanation of the study accompanied the questionnaire. Return of the questionnaire implied consent.

Item Development

From June to August 1998, a preliminary list of prerequisites of cultural competence was generated from interviews with 17 health professionals expert in Mexican migrant care in three migrant clinics in North Carolina, along with field observations in the Tri-County Community Health Center in North Carolina. Interviewees responded to two open-ended questions: 1) their definitions of culturally competent health/nursing care, and 2) the prerequisites of cultural competence in the domains of cultural sensitivity, knowledge, and skills. Based on interviewees' definitions of culturally competent health/nursing care and their lists of the prerequisites of cultural competence, 103 items were generated. Their definitions of culturally competent health/nursing care were very similar, except that the

nurses also considered the component of "caring" as a part of cultural competence, thus adding the domain of caring to the study.

A pilot study was conducted in October 1998 to validate these 103 items and identify additional items. The sample consisted of nurse specialists in Mexican migrant care ($n=5$) recruited from the Migrant Clinicians Network. Next, as a result the pilot study, 89 items were validated and used for each round.

Questionnaires

This Delphi study consisted of two rounds. The round 1 questionnaire included 89 prerequisites of cultural competence. Using a 5-point Likert scale, the Round 1 participants were asked to indicate the level of their agreement that items were prerequisite to providing culturally competent care (1 = strongly disagree to 5 = strongly agree).

In the round 2 survey, the participants received the round 1 results (means and ranks for each item). Like in round 1, the round 2 participants were asked to rate the level of their agreement on a 5-point Likert scale for the listed 89 items. Additionally, the round 2 participants were asked to rate 20 additional items, which had been suggested by round 1 participants.

Participants and Data Collection

The Delphi participants were purposefully recruited from separate but related groups of nurses expert in Mexican migrant care. Samples were generated primarily from the 1995/1996 *Migrant Health Centers Referral Directory* (US Health Resources and Services Administration [HRSA], 1995) and the *Clinician's Migrant Health Directory* (Migrant Clinicians Network [MCN], 1998).

In January, 1999, the round 1 questionnaire was mailed to 201 prospective respondents including nurses who were working with MMF from across the United States, members of the Migrant Clinicians Network and Certified Transcultural Nurse Specialists.

Round 2 questionnaires were mailed in March 1999, to 279 prospective respondents. To increase the sample size, a new group of nurse experts ($n=88$), who were members of MCN and who did not receive the round 1 questionnaire, were invited to participate in the round 2 survey, along with the nurses who received the round 1 questionnaire.

In both rounds, thank you/reminder cards were sent to prospective respondents 14 days after the mailing to ensure questionnaire response and to encourage involvement in the study.

The response rate to round 1 was 50.2% ($n=101$), and 46.3% ($n=93$) of the surveys were usable. Of the 101 respondents, 79% were white, 3% African American, 8% Hispanic, 4% Native American, and 7% bi-racial. Sixty-three percent had a master's degree; 18% had a doctoral degree. Fifty-eight percent of the respondents could speak Spanish. Respondents served Mexican migrants for an average of 9 years; 50% worked in the East coast stream, 28% in the Midwest stream, and 22%

in the Western stream. An average of 33 Mexican migrant clients per day were served by the clinics where the nurses worked.

The demographic characteristics of round 2 respondents ($n=153$) were similar to those of the Round 1 respondents. The response rate (54.8%) in round 2 was slightly higher than that in round 1. Among usable responses ($n=142$), 77 percent were white, 63% had a master's degree, 14% had a doctoral degree, and 75% spoke Spanish. The average length of experience with Mexican migrant farmworkers was 8.5 years.

RESULTS

Using a two-round modified Delphi method, a list of 89 items was generated. Consensus on an item was defined as a mean score above 4.0 with a standard deviation less than 1.0 in both rounds, showing consensus rates of 85.4% in round 1 (76 items), and 88.8% in round 2 (79 items). Our findings showed internal consistency reliability with Cronbach alpha coefficient 97.6 in round 1 and 98.4 in round 2.

Respondents in both rounds strongly agreed that the items listed were prerequisites to the provision of culturally competent care for MMF. The items were generally rated high, with a mean score of 4.26 in round 1, and 4.36 in round 2 on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree); ranges were 2.98 to 4.76 in round 1, and 3.22 to 4.82 in round 2. Only 13 items in round 1 (14.6%) and 10 items in round 2 (11.2%) were the mean scores below 4.0 (4 = agree). The additional 20 items in round 2 were analyzed separately and the mean was 4.39 with ranges of 4.13 to 4.67.

Although most items in both rounds were ranked high, the 21 items with mean scores above 4.5 (4 = agree, and 5 = strongly agree) in both rounds may be considered the most essential. Twenty four items in round 1 and 29 items in round 2 had mean scores above 4.5. As shown in Table 1, among these 32 items of mean scores above 4.5 in either round, 21 items showed mean scores above 4.5 in both rounds: six caring domain (items 1, 2, 5, 6, 8, & 9), six cultural sensitivity domain (items 11, 12, 14, 20, 21, & 22), one cultural knowledge domain (item 26), seven cultural abilities/skills domain (items 55, 58, 60, 63, 66, & 80) and one other category (item 88).

DISCUSSION

The 89 prerequisites to culturally competent care identified by respondents encompassed caring (9 items), cultural sensitivity (15 items), cultural knowledge (general [8 items] and specific [20 items]), cultural abilities/skills (29 items), and others (8 items). The implications of each of these domains are discussed below. The additional 20 items identified by the round 1 participants are not discussed here.

Caring and Cultural Sensitivity

Caring. Caring refers to nurses' attitudes, judgments, and actions that show support and professional skills (Kim-Godwin, Clarke, & Barton, 2001). The findings of

the study indicate that that caring is the foundation for transcultural nursing as well as nursing in general (Leininger, 1995). All nine items in the caring domain were generally rated high with a mean of 4.54 in round 1 and 4.64 in round 2; and six items, among nine, belonged to the top 21 items. Specifically, "non-judgmental attitudes and behaviors (item 6)" was ranked third in round 2 and fourth in round 1. Also, "patience in communicating with clients (item 1)" was ranked second in round 2 and eighth in round 1. Difference in language between health care providers and the farmworkers is a significant barrier to providing care for this population. The participants clearly pointed this out and were aware of the importance of patience to reduce this barrier.

Cultural Sensitivity. Cultural sensitivity refers to attitudes, perceptions, and values that show heightened awareness of the provider's own culture and respect to clients' culture (Kim-Godwin et al., 2001). Cultural sensitivity was also a highly-rated prerequisite to culturally competent care. For example, "respect for different cultural beliefs and practices (item 22)" was ranked third in round 1 and fourth in round 2. In addition, "willingness to learn about other cultures (item 12)," "awareness of the client's culture (item 14)," "respect for the uniqueness of the client's culture (item 21)," "openness to/acceptance of different cultural beliefs (item 11)," and "awareness of different gender roles in client's culture (item 20)" were in the top 21 items in both rounds. These findings point to the importance of nurses' cultural sensitivity in caring for MMF and suggest that cultural sensitivity is the foundation for cultural competence. Previous research has also indicated that nurses' acceptance and respect are very important in caring for Mexican Americans. For example, Mexican Americans considered nurses to be non-caring when they did not show respect for their Mexican American clients (Zoucha, 1998).

This study suggests that *caring attitudes* (e.g., patience or openness) and a *culturally sensitive approach* (e.g., respect) are essential for culturally competent care to MMF. Cultural sensitivity, based on nurses' respect for clients' culture, helps establish clients' trust in nurses.

Cultural Knowledge. Cultural knowledge refers to the cognitive understanding of the migrant client's culture, including socio-environmental factors in addition to cultural specific beliefs and behaviors. Cultural knowledge enables nurses to perform cultural assessments and prevent potential cultural conflicts or clashes which may cause clients' lack of cooperation or slow signs of recovery (Leininger, 1995). MMF generally have traditional values, beliefs and practices that include such elements as strong family and kinship bonds, recognition of male dominance and authority, and respect for authority figures (de Leon Siantz, 1994). Many MMF use folk health remedies, such as herbal teas and poultices, as well as over-the-counter drugs, along with sup-

plication and prayers for treatment (de Leon Siantz, 1994; Purnell, 1998).

In this study, respondents rated both general and specific cultural knowledge important (mean ranges for general cultural knowledge were 4.10 - 4.61 in round 1, and 3.89 - 4.55 in round 2; and for specific cultural knowledge were 3.82 - 4.54 in round 1, and 3.83-4.50 in round 2). However, three items in round 1 and two items in round 2 had mean scores above 4.5, indicating that only one item belonged to the top 21 items in both rounds (See Table 1). Thus, while cultural knowledge is important, it may not be the most essential component in culturally competent care. Acquiring cultural knowledge is important as long as a nurse can incorporate that knowledge into client care. A nurse who believes that providing culturally-competent care is important in his/her practice will focus on obtaining cultural knowledge from each individual client during the health care interaction.

Cultural Abilities/Skills

Culture skills are the abilities to conduct a cultural assessment, to communicate with clients, and to act as a cultural facilitator and advocate (Kim-Godwin et al., 2001). Cultural abilities/skills enable nurses to incorporate aspects of their client's cultural system, migratory life style, and socioeconomic conditions in their care of MMF, leading to client satisfaction and increased utilization of health care services. Without cultural abilities/skills to integrate MMF cultural and social context into care, nurses are unable to develop trust with MMF who often fear existing health services. MMF prefer not to seek health care services if the services do not in some ways adapt to their cultural and socio-economic conditions. Additionally, culturally skillful nurses can motivate individual clients to participate in their care or motivate community participation by advocating on behalf of clients and by providing appropriate resources for MMF. These vital nursing interventions can result in positive health outcomes.

Among the top 21 items, seven items belonged to the domain of cultural abilities/skills and these include "ability to establish trust (item 60)," "ability to work with a bilingual interpreter (item 55)," "Avoidance of stereotypes and generalization about client's culture (item 80)," "ability to speak according to clients' level of understanding (item 66)," "ability to use culturally sensitive strategies/materials (item 62)," "ability to recognize client's level of literacy, either in Spanish or English (item 63)," and "ability to tailor nursing intervention to suit different cultures and individuals (item 58)."

These results suggest that the respondents highly valued the role of interpreters and importance of communication. However, surprisingly, fluency in Spanish ($M=3.66$ in round 1 and $M=3.95$ in round 2); and preparation of Spanish instruction sheets ($M=3.91$ in round 1 and $M=3.96$ in round 2) were not highly rated, despite the fact that the majority of respondents (62% in round 1 and 75% in round 2) could speak Spanish. This find-

Round 2 Rank	Items in Rounds	Round 2 Mean (SD)	Round 1 Mean (SD)	Round 1 Rank
1.	Ability to establish trust (item 60)	4.82 (0.42)	4.69 (0.55)	4-1
2.	Having patience in communicating with clients (item 1)	4.78 (0.42)	4.64 (0.68)	8-1
3.	Showing non-judgmental attitudes & behaviors (item 6)	4.77 (0.46)	4.67 (0.60)	4-2
4.	Showing respect for client's cultural beliefs and practices (item 22)	4.76 (0.43)	4.70 (0.48)	3
5.	Ability to work with a bilingual interpreter in a culturally sensitive way (item 55)	4.73 (0.48)	4.69 (0.49)	4-3
6.	Possessing openness to/acceptance of different cultural views or beliefs (item 11)	4.72 (0.48)	4.73 (0.52)	2
7.	Showing kindness/compassion (item 7)*	4.69 (0.49)	4.50 (0.69)	26
8-1.	Being sensitive to the client's current physical status (item 2)	4.68 (0.61)	4.55 (0.74)	15-1
8-2.	Being willing to look beyond physical medical needs and consider other issues that may be affecting the client (item 9)	4.68 (0.55)	4.55 (0.71)	15-2
10-1.	Showing respect for client's job and lifestyle (item 23)*	4.66 (0.50)	4.44 (0.66)	38
10-2.	Avoiding stereotypes and generalizations about client's cultural group (item 80)	4.66 (0.47)	4.51 (0.75)	25
12-1.	Being aware of client's cultural values/beliefs/practices (item 14)	4.66 (0.51)	4.76 (0.48)	1
12-2.	Ability to speak according to client's level of understanding (item 66)	4.66 (0.53)	4.61 (0.65)	10-1
14.	Ability to use culturally sensitive strategies/materials (item 62)	4.64 (0.54)	4.56 (0.58)	14
15.	Greeting and welcoming clients (item 8)	4.63 (0.62)	4.55 (0.71)	15-2
16-1.	Being willing to help (item 5)	4.61 (0.49)	4.52 (0.69)	20
16-2.	Showing respect for the uniqueness of client's culture (item 21)	4.61 (0.60)	4.64 (0.57)	8-2
16-3.	Knowledge of disease and health issues specific to the environment of client (item 29)*	4.61 (0.57)	4.47 (0.64)	30
19.	Flexibility in accommodating behavior to client's cultural beliefs and expectations (item 81)*	4.60 (0.57)	4.46 (0.62)	32
20.	Possessing warmth and empathy/affection (item 4)*	4.59 (0.58)	4.48 (0.73)	27
21-1.	Ability to recognize client's level of literacy, either in Spanish or English (item 63)	4.58 (0.55)	4.52 (0.66)	20
21-2.	Ability to explain medical problems, procedures, and other items (item 67)*	4.58 (0.60)	4.45 (0.71)	35
21-3.	Critical thinking ability (item 88)	4.58 (0.58)	4.52 (0.71)	20
24.	Being willing to learn about other cultures (item 12)	4.56 (0.70)	4.65 (0.48)	7
25-1.	Knowledge of client's difficulties in accessing the "system" for needed services (item 26)	4.55 (0.65)	4.61 (0.56)	10-2
25-2.	Ability to foster community trust/involvement (item 61)*	4.55 (0.65)	4.41 (0.69)	41
27.	Being aware of typical sick role behaviors in client's culture (item 16)*	4.54 (0.53)	4.44 (0.60)	38
28-1.	Being aware of different gender roles in client's culture (item 20)	4.53 (0.63)	4.60 (0.56)	12
28-2.	Ability to tailor nursing intervention to suit different cultures and individuals (item 58)	4.53 (0.61)	4.58 (0.60)	13
30.	Knowledge of stress related to minority and low socio-economic status and its effect on health outcomes (item 25)**	4.50 (0.58)	4.55 (0.57)	15-4
40.	Knowledge of Mexican child bearing attitudes (item 36)**	4.43 (0.61)	4.54 (0.55)	19
31.	Knowledge of typical female behaviors and attitudes toward health care providers (item 35)**	4.496 (0.56)	4.52 (0.53)	20

Notes.

* indicates that items 4, 7, 16, 23, 29, 61, 67 & 81 were deleted because the means of Round 1 were less than 4.5.

** indicates that items 25, 35, & 36 were deleted because the means of Round 2 were less than 4.5.

ing is not congruent with other research, which suggest that Mexican clients prefer nurses to use Spanish without using interpreters. For example, in an ethnographic study conducted by Stasiak (1991), 86% of the Mexican participants emphasized that nurses must use the Spanish language to understand Mexican Americans and the meanings behind foreign terms. Also, in Zoucha's (1998) ethnographic study, many Mexican Americans considered nurses non-caring when they did not communicate in Spanish while giving care. The findings can be interpreted several ways. The respondents may believe that language differences are substantial barriers to providing adequate nursing care to their clients, but the language barriers could be overcome by using interpreters. In some cases, they may believe that "fluency in Spanish" is different from "Spanish speaking ability." However, note that in the scoring, 4 = agree and 5 = strongly agree, so a score of 3.95 may not be significantly different from the highest score of 4.82 on a 5-point Likert scale. Considering that the findings were derived from a convenience or criterion sample, and the responses were entirely subjective in nature, MMF's input about whether health care providers should be fluent in Spanish should be considered in further research. Since the existence of a consensus in a Delphi study does not mean that the correct answer or opinion has been found, the Delphi method and results should be used as a means for structuring group discussion and of raising issues for debate (Hasson et al., 2000). Therefore, future research is imperative to examine different perceptions about "Spanish language fluency" between clients and health care providers to reduce the possibility of misunderstanding.

Others (Bi-cultural Status; Cultural and Learning Experiences)

Among the total 89 items, eight items did not belong to the domains above: these items included bi-cultural status, cultural and learning experience, and other components, and they were rated relatively low with ranges 3.36 - 4.28 (M= 3.83) in round 1 and 3.22 - 4.58 (M = 3.89) in round 2. The literature points to the importance of bi-cultural status and experience in transcultural settings or migrant farmworker settings (Campinha-Bacote, 1995; McDonald, 2001). Also, current health care emphasizes bi-cultural status as a solution to cultural barriers in the provision of culturally competent health care. For example, NACMH stated that bilingual ability or bi-cultural status was the most important component of culturally competent care for migrant farmworkers (NACMH, 2001). However, in our study, bi-cultural status was rated lowest by the respondents in each round (M=2.98 in round 1, and M=3.22 in round 2). The findings may be because the majority of respondents in both rounds were non-Hispanic white nurses. If this assumption is true, further research that examines bi-cultural nurses' perceptions should be considered before drawing conclusions. The results of the

study suggest that other components of cultural competence are more important than bi-cultural status in providing care to MMF. Considering that the majority of nurses in the United States are non-Hispanic Euro-Americans, these findings are encouraging because they suggest that bi-cultural status is not the only solution to effective MMF health care.

CONCLUSION

Previous discussion of cultural competence in health care has generally been limited to the issue of language access and the ability of providers to speak with clients in their primary language (Chin, 2000). However, beyond language ability, the study findings indicate that cultural competence includes additional essential components such as caring, cultural sensitivity, cultural knowledge, and cultural abilities/skills. These findings also suggest that "cultural competence" requires more than "nursing competence," thus making it an integral part of nursing education for community health nursing.

The findings of the study can be used for nursing education, practice and instrument development. Because the prerequisites of cultural competence identified in this study consist of a wide range of characteristics, nurse educators may group the cultural competence domains according to nurses' existing level of cultural competence or experience. For example, for new staff nurses, caring and cultural sensitivity components can be taught first. Then specific information about Mexican culture could be taught because it provides the ability of conducting a cultural assessment. Finally, cultural abilities/skills (such as cultural assessment/ psychomotor, advocacy, and language/communication skills) could be discussed as the last phase of developing cultural competence. However, the ability of speaking Spanish should be emphasized throughout the entire process because use of the clients' language is the beginning of caring as well as the foundation of cultural competence.

The generated 89 items give a comprehensive view of the affective (caring and cultural sensitivity), cognitive (cultural knowledge) and psychomotor skills (cultural abilities/skills), which nurses should possess in providing health care services to MMF. The list could be used for self-evaluation, where nurses could identify their weak areas. By reviewing the list of 89 items before/during providing care to MMF, nurses could improve their deficient components. Also, since the list provides specific information about cultural knowledge, by simply reviewing the list, nurses can increase their knowledge of MMF culture.

In addition to their applicability to nursing education and practice, the findings of this study can be used for instrument development. Although the findings of the study cannot be generalized because of the use of the convenience sample, the study showed strong evidence of validity and reliability. Because the respondents in the study were nurse experts in MMF health

care, the generated items have content validity. Also, the findings of an exploratory factor analysis in round 2, which was conducted to determine construct validity of the items generated, showed that the items explained 89% of the variance in cultural competence. Considering that few instruments exist to measure the cultural competence of nurses, the items generated in this study may provide a resource for the development of an instrument to assess cultural competence in other research studies.

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