Patient Perceptions of Expression of Empathy From Chinese Medicine Clinicians in a Chinese Population

A Cross-Sectional Study

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Abstract: This study aims to examine the level of empathy perceived by patients receiving care from herbalists, acupuncturists and massage therapists and to investigate the factors that influence levels of perceived empathy.

Participants who were 18 years or above; able to provide written informed consent; and able to read and write in Chinese without assistance were included. A total of 514 participants sampled from charity and semipublic Chinese medicine (CM) clinics in Hong Kong were recruited to assess levels of empathy perceived during various length of consultations (1–20 minutes) by the Chinese Consultation and Relational Empathy Measure (Chinese CARE). Multiple linear regressions were conducted to evaluate the associations between perceived levels of empathy and the type of CM practitioner consulted and participants’ demographic and health characteristics.

The average Chinese CARE total score for participants consulting CM practitioners was 34.3 of a maximum of 50. After adjusting for participants’ health and demographic characteristics, acupuncturists received the highest ratings (P < 0.001), whereas massage therapists (P < 0.001) scored the lowest of the 3 modalities. Participants receiving social benefits (P = 0.013), those with longer waiting times (P = 0.002), and those with shorter consultation durations (P = 0.020) scored significantly lower on the Chinese CARE.

The level of empathy perceived by participants using CM was similar to results found for those in conventional care, in contrast to findings in other geographical settings, where a high level of perceived empathy was a major motivator for participants to choose complementary medicine.
the ethical doctrine of CM, fostering a strong practitioner–patient relationship is mandatory, and only those who possess skills in fostering this relationship are considered practitioners of high caliber.11 Building a healing relationship with patients was regarded as an essential element in the practice of family medicine, with the goal of promoting trust, hope, and a sense that the clinician knows the patient well.12

This study aims to examine the level of empathy perceived by patients receiving care from herbalists, acupuncturists, and massage therapists and to investigate the factors that influence levels of perceived empathy.

METHODS

Settings
This study was conducted in the charity and semipublic CM sector of Hong Kong, in which nongovernmental organizations (NGOs) are the main providers.13 NGOs are actively involved in the provision of semipublic CM services by managing Clinical Centres for Teaching and Research in Chinese Medicine (CCTRCM). CCTRCMs are established under a tripartite collaboration between NGOs, universities providing tertiary CM education, and the tax-funded health system (ie, the Hospital Authority). CCTRCMs are distinct from NGOs and mobile clinics in that they have formal linkages with the Hospital Authority.14 In this tripartite collaboration, the Hong Kong Government provided partial subsidy to the CCTRCM via the Hospital Authority, NGOs served as the operators of CM services, and universities provided research and training expertise. Regardless of their management structure, all clinics provided 3 types of CM services: herbal medicine, acupuncture, and massage therapy. Consultation fees were waived for patients who were receiving social benefits.

Sampling and Data Collection
Participants were recruited at the 3 types of CM clinics. These clinics are managed by an anonymous charitable NGO and included 5 NGO clinics, 18 mobile clinics, and 2 CCTRCMs. There were 3 CM clinicians working in each NGO clinic and 1 CM clinician attending at each mobile clinic. The 2 CCTRCMs employed 18 and 22 CM clinicians. Following the sample size requirement of 20 subjects per independent variable for conducting multiple linear regression analysis,15 we estimated a required sample size of 500. As there were 12 independent variables in the regression, our planned sample size of 500 is more than sufficient to meet the required number. Please refer to the statistical details described by Vittinghoff and McCulloch.15 To ensure representative recruitment of participants, we adopted a disproportionate stratified sampling approach. We sampled 167 participants from each type of clinic. The sampling frame was constituted of participants attending each type of clinic, and these participants formed the target population of this study.

Participants who were 18 years or above, able to provide written informed consent, and able to read and write in Chinese without assistance were invited to participate. Specifically, we approached 34 participants from each of the 5 NGO clinics, 10 participants from each of the 18 mobile clinics, and 83 participants from each of 2 CCTRCMs. For each clinic type, we invited consecutive participants to participate until the required sample size was reached. All service users 18 years or older were invited to participate in a face-to-face interview immediately after their consultation. No compensation was given for participation. The interviews were conducted by trained interviewers. Written informed consent was obtained from patients before the interview. Ethical approval was obtained from the Joint Chinese University of Hong Kong – New Territories East Cluster Clinical Research Ethics Committee (Ref no: CRE-2012.113). Although the NGO remained anonymous in this report, its staff members were involved in the application process for ethical approval.

Questionnaire Design
The questionnaire used to conduct the interviews consisted of 2 parts. The first part assessed patients’ perceptions of relational empathy during the consultation using the Consultation and Relational Empathy Measure questionnaire, Hong Kong Chinese version. The second part assessed respondents’ demographic and health-related characteristics, including their sex, age, employment status, education level, marital status, housing type, payment status, self-perceived health status, reason for consultation, duration of waiting time, and duration of consultation. Previous qualitative study that invited Hong Kong primary care patients to evaluate concepts mentioned in Chinese CARE measure has demonstrated high utility and relevance of this instrument in evaluating patient-perceived empathy.6 Additionally, the Chinese CARE has demonstrated high inter-rater reliability. Factor analysis of the Chinese CARE has supported a single domain solution with a high factor loading, and construct validity has been demonstrated using the association between Chinese CARE scores and patient enablement and satisfaction.7,8 The Chinese CARE consists of 10 items with response options ranging from poor to excellent (scored on a 5-point Likert scale), yielding a maximum score of 50 points. A “not applicable” option was included for each question. For the full questionnaire, please contact the developers of Chinese CARE.7 Up to 2 “not applicable” responses or missing values were considered acceptable, and values for these were imputed by an expectation-maximization algorithm. Questionnaires with ≥3 “not applicable” responses or missing values were excluded from the analysis.16 Two data entry assistants independently input data from the collected questionnaires, and a third assistant was assigned to check electronically for discrepancies.

Statistical Analysis
One-way analysis of variance was used to compare Chinese CARE scores among different types of CM modalities. Multiple linear regression was used to examine the association between the total Chinese CARE score and CM modalities, adjusting for patients’ demographic and health-related characteristics. Improvements in nested linear models were assessed by the likelihood ratio test. For non-nested linear models, the Akaike information criterion was used. Multiple imputation was used to handle missing data, and analyses were performed using the R-packages OpenMX (https://cran.r-project.org/web/packages/OpenMx/index.html) and NORM (https://cran.r-project.org/web/packages/norm/index.html) (R version 2.15.2, R Foundation for Statistical Computing; www.r-project.org).17,18 P values < 0.05 were regarded as statistically significant. The original Chinese CARE development specified that the questionnaire was constructed as a continuous scale.7,8

RESULTS

Participants’ Characteristics
In total, 516 participants were interviewed using the prespecified quota from all 3 types of clinics. Suitable data for
|                  | Consulted Acupuncturists (N = 64) | Consulted Massage Therapists (N = 40) | Consulted Herbalists (N = 401) | Total (N = 514) |
|------------------|-----------------------------------|--------------------------------------|-------------------------------|-----------------|
|                  | n (%)                             | n (%)                                | n (%)                         | P* n (%)        |
| **Sex**          |                                   |                                      |                               |                 |
| Male             | 18 (28.1)                         | 24 (60.0)                            | 126 (31.4)                    | 0.001 171 (33.3) |
| Female           | 46 (71.9)                         | 16 (40.0)                            | 273 (68.1)                    | 341 (66.3)      |
| **Age, y**       |                                   |                                      |                               |                 |
| 18–29            | 4 (6.2)                           | 9 (22.5)                             | 59 (14.7)                     | 0.032 73 (14.2) |
| 30–39            | 6 (9.4)                           | 4 (10.0)                             | 69 (17.2)                     | 79 (15.4)       |
| 40–49            | 16 (25.0)                         | 10 (25.0)                            | 82 (20.4)                     | 111 (21.6)      |
| 50–59            | 19 (29.7)                         | 3 (7.5)                              | 93 (23.2)                     | 119 (23.2)      |
| 60–69            | 10 (15.6)                         | 6 (15.0)                             | 58 (14.5)                     | 75 (14.6)       |
| >70              | 7 (10.9)                          | 8 (20.0)                             | 36 (9.0)                      | 51 (9.9)        |
| **Education level** |                                |                                      |                               |                 |
| Primary education or below | 20 (31.2)    | 10 (25.0)                            | 85 (21.2)                     | 0.448 119 (23.2) |
| Secondary education | 30 (46.9)   | 18 (45.0)                            | 201 (50.1)                    | 253 (49.2)      |
| Tertiary education or above | 14 (21.9)  | 12 (30.0)                            | 113 (28.2)                    | 140 (27.2)      |
| **Employment status** |                                |                                      |                               |                 |
| Employed         | 33 (51.6)                         | 23 (57.5)                            | 204 (50.9)                    | 0.173 266 (51.8) |
| Unemployed       | 10 (15.6)                         | 5 (12.5)                             | 55 (13.7)                     | 70 (13.6)       |
| Retired          | 16 (25.0)                         | 11 (27.5)                            | 76 (19.0)                     | 104 (20.2)      |
| Others           | 4 (6.2)                           | 1 (2.5)                              | 56 (14.0)                     | 63 (12.3)       |
| **Marital status** |                                |                                      |                               |                 |
| Married/cohabitation | 50 (78.1)   | 22 (55.0)                            | 256 (63.8)                    | 0.065 334 (65.0) |
| Single           | 9 (14.1)                          | 11 (27.5)                            | 103 (25.7)                    | 125 (24.3)      |
| Divorced/separated/widowed/others | 4 (6.2)      | 7 (17.5)                             | 41 (10.2)                     | 53 (10.3)       |
| **Type of housing** |                                |                                      |                               |                 |
| Private housing  | 38 (59.4)                         | 21 (52.5)                            | 271 (67.6)                    | 0.068 336 (65.4) |
| Public housing/others | 26 (40.6)  | 19 (47.5)                            | 126 (31.4)                    | 174 (33.9)      |
| **Need to pay for consultation fee** |                                |                                      |                               |                 |
| No               | 11 (17.2)                         | 4 (10.0)                             | 41 (10.2)                     | 0.258 56 (10.9) |
| Yes              | 52 (81.2)                         | 34 (85.0)                            | 353 (88.0)                    | 448 (87.2)      |
| **Self perceived health status** |                                |                                      |                               |                 |
| Excellent /very good | 7 (10.9)      | 7 (17.5)                             | 31 (7.7)                      | 0.234 46 (8.9)  |
| Good             | 18 (28.1)                         | 9 (22.5)                             | 117 (29.2)                    | 147 (28.6)      |
| Fair             | 29 (45.3)                         | 19 (47.5)                            | 215 (53.6)                    | 268 (52.1)      |
| Poor             | 10 (15.6)                         | 5 (12.5)                             | 38 (9.5)                      | 53 (10.3)       |
| **Reason for consultation** |                                |                                      |                               |                 |
| Episodic condition | 9 (14.1)      | 11 (27.5)                            | 189 (47.1)                    | <0.001 213 (41.4) |
| Chronic condition | 49 (76.6)   | 22 (55.0)                            | 168 (41.9)                    | 244 (47.5)      |
| Both conditions  | 6 (9.4)                           | 7 (17.5)                             | 34 (8.5)                      | 47 (9.1)        |
| **Duration of waiting time (minutes)** |                                |                                      |                               |                 |
| 1–5              | 23 (35.9)                         | 11 (27.5)                            | 130 (32.4)                    | 0.295 169 (32.9) |
| 6–10             | 15 (23.4)                         | 6 (15.0)                             | 105 (26.2)                    | 129 (25.1)      |
| 11–15            | 13 (20.3)                         | 9 (22.5)                             | 73 (18.2)                     | 96 (18.7)       |
| 16–20            | 5 (7.8)                           | 10 (25.0)                            | 41 (10.2)                     | 56 (10.9)       |
| >20              | 8 (12.5)                          | 4 (10.0)                             | 51 (12.7)                     | 63 (12.3)       |
| **Duration of consultation (minutes)** |                                |                                      |                               |                 |
| 1–5              | 1 (1.6)                           | 1 (2.5)                              | 163 (40.6)                    | <0.001 165 (32.1) |
| 6–10             | 3 (4.7)                           | 5 (12.5)                             | 160 (39.9)                    | 169 (32.9)      |
| 11–15            | 6 (9.4)                           | 5 (12.5)                             | 50 (12.5)                     | 61 (11.9)       |
| 16–20            | 6 (9.4)                           | 18 (45.0)                            | 11 (2.7)                      | 35 (6.8)        |
| >20              | 47 (73.4)                         | 11 (27.5)                            | 9 (2.2)                       | 75 (14.6)       |

*P value derived from Fisher exact test of independence between 3 groups by Monte Carlo simulation with 1,000,000 replicates.

1Sums of the percentages did not equal to 100% because of missing data.
analysis was collected from 514 patients. Two participants did not provide complete responses to the questionnaire, and their responses were therefore excluded from the analysis. Table 1 displays the demographic and health-related characteristics of the participants. There were significant differences in sex (\( P = 0.001 \)), age (\( P = 0.032 \)), reasons for consultation (\( P < 0.001 \)), and duration of consultation (\( P < 0.001 \)) among users of the 3 different CM modalities of Chinese herbal medicine, acupuncture, and therapeutic massage. A higher proportion of male participants consulted massage therapists, whereas more female participants visited acupuncturists and herbalists. Massage therapists were visited by younger participants, and consultation times for acupuncturists were much longer than for the other modalities.

**Chinese CARE Scores Across 3 Modalities**

Table 2 presents the Chinese CARE scores of participants visiting different types of CM modalities. The mean total Chinese CARE score was 34.3 (95% confidence interval [CI]: 33.6–35.0) of the maximum of 50 points. The lowest scores were observed on the items “being interested in you as a whole person” and “making a plan of action with you.” In these domains, ratings were <65% of the highest possible scores.

The mean total score was significantly higher for participants who consulted herbalists (34.1; 95% CI: 33.3–34.9) than for those who consulted massage therapists (30.1; 95% CI: 28.3–32.0), and those using acupuncture services had a significantly higher total average score (37.7; 95% CI: 35.9–39.5) than those who visited herbalists (\( P < 0.001 \)). Similar trends (with scores being highest for those visiting acupuncturists, followed by herbalists and then massage therapists) were observed for each individual Chinese CARE item, with significant differences in mean item scores across the 3 modalities. Table 3 presents the standardized regression coefficients for all 3 CM modalities in each Chinese CARE domain. After controlling for patients’ demographic and health-related characteristics using multiple linear regression, massage therapists were rated significantly lower than acupuncturists (\( P = 0.001 \)) as measured by the mean total Chinese CARE score, as well as on all individual items (\( P < 0.05 \)) except for “being interested in you as a whole person” and “fully understanding your concerns” as shown in Table 4. There were no significant differences in total scores or individual item ratings between participants who received acupuncture and those who consulted herbalists, except for the items “helping you to take control” (\( P = 0.044 \)) and “making a plan of action with you” (\( P = 0.006 \)), on which herbalists were rated significantly lower than were acupuncturists.

**Multiple Linear Regression Analysis**

Table 4 presents the multiple linear regression analysis of the total Chinese CARE score, with participants’ socioeconomic and health characteristics as independent variables. Compared with those who sought acupuncture treatment, participants who sought care from massage therapists had significantly lower total Chinese CARE scores. Participants who waited >16 minutes before their consultations reported a significantly lower score than did those who waited a shorter time. Participants who received a session lasting 1 to 5 minutes had significantly lower total Chinese CARE scores, compared with those who had a consultation >20 minutes. Participants aged 70 years or older were more likely to score significantly higher when compared with those aged 18 to 29 years. Finally, those who paid for their consultations tended to score a higher on the Chinese CARE.

**DISCUSSION**

To our knowledge, this is one of the first studies to evaluate Chinese patients’ perceptions of empathy during CM consultation. With a mean total Chinese CARE score of 34.3 of a maximum of 50 points, the performance of CM practitioners was similar to that of conventional clinicians in Hong Kong, whose patients’ mean total Chinese CARE scores in previous research range from 31 to 34.6. In this study, the Chinese CARE scores were slightly lower on the items “being interested in you as a whole person” and “making a plan of action with you,” which are generally considered particular strengths of

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**TABLE 2. Comparison of Chinese-CARE Item and Total Scores Among 3 Different Types of CM Modalities**

| Chinese-CARE Items | Consulted Acupuncturists (\( N = 64 \)) | Consulted Massage Therapists (\( N = 40 \)) | Consulted herbalists (\( N = 401 \)) | Overall Scores (\( N = 514 \)) |
|--------------------|------------------------------------------|---------------------------------------------|----------------------------------------|-------------------------------|
|                    | Mean (95% CI)                            | Mean (95% CI)                               | Mean (95% CI)                          | Mean (95% CI)                |
| 1 Making you feel at ease | 3.92 (3.71–4.14)                          | 3.23 (3.01–3.44)                            | 3.45 (3.36–3.54)                       | 3.5 (3.42–3.58)              |
| 2 Letting you tell your “story” | 3.84 (3.64–4.05)                          | 3.13 (2.89–3.36)                            | 3.51 (3.42–3.60)                       | 3.52 (3.44–3.60)             |
| 3 Really listening | 3.84 (3.65–4.04)                          | 3.18 (2.94–3.41)                            | 3.62 (3.53–3.71)                       | 3.61 (3.54–3.69)             |
| 4 Being interested in you as a whole person | 3.59 (3.38–3.81)                          | 2.93 (2.67–3.18)                            | 3.15 (3.05–3.25)                       | 3.19 (3.10–3.28)             |
| 5 Fully understand your concerns | 3.59 (3.36–3.83)                          | 3.03 (2.78–3.27)                            | 3.32 (3.22–3.41)                       | 3.33 (3.25–3.42)             |
| 6 Showing care and compassion | 3.73 (3.51–3.96)                          | 3.10 (2.87–3.33)                            | 3.49 (3.40–3.58)                       | 3.5 (3.42–3.58)              |
| 7 Being positive | 3.95 (3.76–4.15)                          | 3.15 (2.90–3.40)                            | 3.62 (3.54–3.71)                       | 3.64 (3.56–3.71)             |
| 8 Explaining things clearly | 3.92 (3.72–4.12)                          | 3.10 (2.83–3.37)                            | 3.56 (3.47–3.65)                       | 3.58 (3.49–3.66)             |
| 9 Helping you to take control | 3.75 (3.52–3.98)                          | 2.83 (2.57–3.08)                            | 3.34 (3.25–3.44)                       | 3.36 (3.27–3.44)             |
| 10 Making a plan of action with you | 3.53 (3.30–3.76)                          | 2.48 (2.22–2.73)                            | 3.03 (2.93–3.13)                       | 3.05 (2.96–3.14)             |
| Chinese-CARE total score (out a maximum of 50) | 37.7 (35.9–39.5)                          | 30.1 (28.3–32.0)                            | 34.1 (33.3–34.9)                       | 34.3 (33.6–35.0)             |

ANOVA = analysis of variance, CI = confidence interval, CM = Chinese medicine.
**TABLE 3.** Association Between Chinese-Care Scorings and Patient’s Demographic and Health-Related Characteristics: Multiple Linear Regression Analysis

| CARE Measure Total Score | Unstandardized $\beta_{adj}$ (SE)$^\dagger$ | Standardized $\beta_{adj}$ (SE)$^\dagger$ | $P$ |
|--------------------------|--------------------------------------------|---------------------------------|-----|
| Intercept                | 33.83 (2.77)                               |                                | <0.001*** |
| CM modality consulted    |                                            |                                |     |
| Acupuncturists (Reference) |                                          |                                |     |
| Massage therapists        | −5.60 (1.62)                               | −0.20 (0.06)                   | 0.001*** |
| Herbalists                | −2.05 (1.54)                               | −0.23 (0.17)                   | 0.182 |
| Sex                      |                                            |                                |     |
| Male (Reference)          |                                            |                                |     |
| Female                   | 1.38 (0.73)                                | 0.14 (0.08)                    | 0.057 |
| Age, y                   |                                            |                                |     |
| 18–29 (Reference)         |                                            |                                |     |
| 30–39                    | 1.04 (1.53)                                | 0.05 (0.08)                    | 0.494 |
| 40–49                    | 1.22 (1.57)                                | 0.07 (0.09)                    | 0.436 |
| 50–59                    | 2.14 (1.65)                                | 0.13 (0.10)                    | 0.194 |
| 60–69                    | 1.83 (1.87)                                | 0.09 (0.09)                    | 0.327 |
| ≥70                      | 4.19 (2.11)                                | 0.17 (0.08)                    | 0.048* |
| Education level          |                                            |                                |     |
| Tertiary education or above (Reference) | −0.31 (1.10) | −0.02 (0.07) | 0.782 |
| Primary education or below |                                          |                                |     |
| Secondary education       | 0.32 (0.78)                                | 0.03 (0.07)                    | 0.678 |
| Employment status        |                                            |                                |     |
| Employed (Reference)     |                                            |                                |     |
| Unemployed               | −1.18 (1.02)                               | −0.06 (0.05)                   | 0.251 |
| Retired                  | −0.86 (1.20)                               | −0.05 (0.07)                   | 0.476 |
| Others                   | 1.06 (1.03)                                | 0.05 (0.05)                    | 0.301 |
| Marital status           |                                            |                                |     |
| Married/cohabitation (Reference) | 0.26 (1.14) | 0.02 (0.07) | 0.820 |
| Single                   |                                            |                                |     |
| Divorced/separated/widowed/others | 0.15 (1.12) | 0.01 (0.05) | 0.894 |
| Type of housing          |                                            |                                |     |
| Private house (Reference) | −0.58 (0.69) | −0.04 (0.05) | 0.401 |
| Public house/others      |                                            |                                |     |
| Payment for consultation |                                            |                                |     |
| No payment needed (Reference) | 2.81 (1.12) | 0.34 (0.13) | 0.013* |
| Payment applied           |                                            |                                |     |
| Self perceived health status |                                      |                                |     |
| Excellent/very good (Reference) | −0.36 (1.26) | −0.02 (0.09) | 0.773 |
| Good                     |                                            |                                |     |
| Fair                     | −1.87 (1.22)                               | −0.17 (0.11)                   | 0.125 |
| Poor                     | −1.56 (1.51)                               | −0.06 (0.06)                   | 0.305 |
| Reason for consultation  |                                            |                                |     |
| Episodic condition (Reference) | 1.61 (0.70) | 0.14 (0.06) | 0.022 |
| Chronic condition        |                                            |                                |     |
| Both conditions/others   | 0.45 (1.18)                                | 0.02 (0.05)                    | 0.703 |
| Duration of waiting time, min |                          |                                |     |
| 1–5 (Reference)          |                                            |                                |     |
| 6–10                     | 0.28 (0.85)                                | 0.02 (0.05)                    | 0.741 |
| 11–15                    | −1.30 (0.94)                               | −0.07 (0.05)                   | 0.167 |
| 16–20                    | −4.01 (1.13)                               | −0.17 (0.05)                   | <0.001*** |
| >20                      | −3.57 (1.14)                               | −0.16 (0.05)                   | 0.002** |
| Duration of consultation, min |                                          |                                |     |
| 1–5                      | −3.86 (1.65)                               | −0.28 (0.12)                   | 0.020* |
| 6–10                     | 1.15 (1.62)                                | 0.08 (0.12)                    | 0.481 |
| 11–15                    | 1.48 (1.68)                                | 0.07 (0.07)                    | 0.380 |
| 16–20                    | 1.78 (1.74)                                | −0.06 (0.06)                   | 0.308 |

$^aP < 0.05.$

$^bP < 0.01.$

$^{***}P < 0.001.$

$^\dagger$Adjusted coefficients and standard errors derived from multiple linear regression by full information maximum likelihood.
**TABLE 4. TCM Modalities and Chinese-CARE Scorings: Multiple Linear Regression Analyses**

| Chinese-CARE Total Score | 1 Making You Feel at Ease | 2 Letting You Tell Your "Story" | 3 Really Listening | 4 Being Interested in You as a Whole Person |
|--------------------------|---------------------------|-------------------------------|-------------------|------------------------------------------|
| **Standardized Coefficients (SE)** | **β_{adj}** (SE) **P** | **β_{adj}** (SE) **P** | **β_{adj}** (SE) **P** | **β_{adj}** (SE) **P** |
| **CM modalities** | | | | |
| Acupuncturist (Reference) | | | | |
| Massage therapist | -0.20 (0.06) *** | 0.001 | -0.17 (0.06) ** | 0.004 | -0.15 (0.06) * | 0.010 | -0.15 (0.06) * | 0.010 | -0.10 (0.06) 0.098 |
| Herbalist | -0.23 (0.17) | 0.182 | -0.27 (0.17) | 0.117 | -0.16 (0.17) | 0.345 | -0.15 (0.16) | 0.376 | -0.11 (0.17) 0.519 |
| | | | | | | | | | |
| **Standardized Coefficients (SE)** | | | | |
| **CM modalities** | | | | |
| Acupuncturist (Reference) | | | | |
| Massage therapist | -0.10 (0.06) 0.099 | -0.13 (0.06) ** | 0.034 | -0.18 (0.06) ** | 0.002 | -0.19 (0.06) ** | 0.001 | -0.22 (0.06) *** <0.001 | -0.26 (0.06) *** <0.001 |
| Herbalist | 0.03 (0.17) 0.854 | -0.03 (0.17) 0.868 | -0.17 (0.17) 0.304 | -0.23 (0.17) 0.185 | -0.34 (0.17) * | 0.044 | -0.46 (0.17) ** | 0.006 |

The independent variables included patients' sex, age, education, employment, types of housing, marital status, payment status, self-perceived health status, reason for visit, waiting time, and duration of consultation.

*P < 0.05.

**P < 0.01.

***P < 0.001.

1Adjusted coefficients and standard errors derived from multiple linear regression using full information maximum likelihood.
T&CM practitioners. Two studies from the United Kingdom reported overall CARE scores of 42 to 45 among participants receiving acupuncture services. These studies have also shown that the CARE questionnaire is valid for use in complementary medicine settings. A Japanese study and a Scottish study conducted in primary care settings reported mean scores of 38.4 and 45.6, respectively, and a German study conducted in an oncology setting found a mean score of 37.1.

There are 2 potential reasons for the lower score observed in our findings: (i) Chinese patients' views of CM as a means to achieve good physical health instead of psychosocial health, and holism of CM is interpreted as an appreciation of CM's capacity in addressing effectiveness gaps in conventional care in managing physical diseases; or (ii) paternalism in decision making is often accepted, or desired, especially among older patients with lower socioeconomic status. These possible reasons require further validation.

This overall pattern of relatively low CARE score did not fit with results from all 3 CM modalities. The total mean Chinese CARE scores were similar for patients visiting herbalists and conventional clinicians, significantly higher for patients visiting acupuncturists, and much lower for patients visiting massage therapists. Despite similar patient contact time with massage therapists and acupuncturists, the total mean Chinese CARE score from massage therapists was only 30.1, whereas acupuncturists obtained a score of 37.7. The association between CM modality and the overall Chinese CARE mean score remained significant after controlling for demographic and health characteristics of patients: acupuncturists had significantly higher scores than herbalists and massage therapists on empowerment-related items such as "helping you to take control" and "making a plan of action with you." Higher ratings echo findings from the United Kingdom, where overall CARE scores among acupuncturists were higher than 40.

The interaction between acupuncturists and patients is considered to be a major contributor to the nonspecific effects of acupuncture on positive health outcomes, such as greater pain reduction and improvement in physical functioning among patients with chronic pain. Acupuncturists usually communicate with patients face-to-face before invasive needle procedures. For massage therapists, lower patient perceptions of empathy could be related to CM massage practitioners' focus on manipulative techniques over establishing a therapeutic relationship.

As measured by the Chinese CARE, the overall level of empathy perceived by patients consulting CM practitioners in charity and semipublic CM primary care settings was similar to that of patients consulting conventional clinicians in Hong Kong. As higher empathy score is associated with objective clinical outcomes, empathic practice should be encouraged in both conventional and Chinese medicine clinicians. In fact, the CARE measure score is now endorsed by the General Medical Council for revalidation purpose among General Practitioner in the UK. In Hong Kong, all Chinese medicine practitioners are formally regulated under the 3 streams of herbalism, acupuncture, and therapeutic massage (bone setting). As the Chinese Medicine hospital is yet to be established locally, majority of Chinese medicine practitioners provide care at outpatient level. Therefore, they should be considered as primary health care providers. From the UK experience, similar evaluation of empathy may be considered in the auditing of quality of care provided by Chinese and western medicine clinicians in Hong Kong.
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