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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.

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Abbreviations: CCTRCM = Clinical Centres for Teaching and Research in Chinese Medicine, CI = Confidence interval, CM = Chinese medicine, NGOs = Non-governmental organisations, T&CM = Traditional and complementary medicine.

INTRODUCTION

A recent World Health Organization report proposed that primary care should ''put people first, since good care is about people,''[2] indicating a global emphasis on patient-centered care. Both technical and interpersonal effectiveness are important elements of high-quality primary care.[1] Empathy is a central component of patient-centred care,[3] and can be defined as the ''competence of a physician to understand the patient's situation, perspective, and feelings; to communicate the understanding and check its accuracy; and to act on that understanding in a helpful therapeutic way,''[4] Clinical empathy is a universal value and is highly regarded by patients across cultures.[5]

Expression of empathy by clinicians was associated with higher enablement and adherence, lower levels of anxiety and distress, and higher patient satisfaction in the context of primary care.[4] Additionally, patient perception of higher levels of empathy was related to better clinical outcomes. The clinical outcomes were evaluated among patients with diabetes and common cold. For diabetic patients, their glycosylated hemoglobin (HbA1c) and low-density lipoprotein (LDL) cholesterol levels were significant lower if they were managed by a more empathic physician. For common cold, patients with a more empathic clinical encounter had shorter symptom duration, and greater change in nasal wash interleukin-8 and neutrophil level.[4] When Chinese patients evaluate the quality of consultation, both human skills and perceived treatment outcomes are regarded as important elements of a high-quality consultation.[6] The Chinese version of the Consultation and Relational Empathy Measure (Chinese CARE) is a validated instrument for measuring patients' perceived empathy.[7,8] The content of the Chinese CARE questionnaire was highly relevant to Chinese patients' expectations of primary care.[6] It has demonstrated good psychometric properties for evaluating patients' perceived empathy during consultation with conventional clinicians.[7,8]

The high level of empathy perceived by patients during traditional and complementary medicine (T&CM) consultation has been attributed to the popularity of T&CM alongside conventional care.[9] In Hong Kong, a statutory regulation for Chinese medicine (CM) practitioners has been implemented, and these practitioners provide approximately 20% of the primary care services in the Hong Kong health system.[10] In

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 $\geq$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

TABLE 1. Comparison of Demographic and Health-Related Characteristics of Respondents Stratified by CM Modalities

	Consulted Acupuncturists (N = 64) n (%)	Consulted Massage Therapists (N = 40) n (%)	Consulted Herbalists (N = 401) n (%)	*P**	Total (N = 514) 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.
†Sums 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 did 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.[7,8,19] 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

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

Chinese-CARE Items (Poor = 1, Excellent = 5)	Consulted Acupuncturists (N = 64) Mean (95% CI)	Consulted Massage Therapists (N = 40) Mean (95% CI)	Consulted herbalists (N = 401) Mean (95% CI)	ANOVA *P*	Overall Scores (N = 514) 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)	<0.001	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)	<0.001	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)	0.001	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)	0.001	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)	0.009	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)	0.002	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)	<0.001	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)	<0.001	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)	<0.001	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)	<0.001	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)	<0.001	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 β_{adj} (SE)[†]	**Standardized β_{adj} (SE)**[†]	***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)			
Primary education or below	−0.31 (1.10)	−0.02 (0.07)	0.782
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)			
Single	0.26 (1.14)	0.02 (0.07)	0.820
Divorced/separated/widowed/others	0.15 (1.12)	0.01 (0.05)	0.894
Type of housing			
Private house (Reference)			
Public house/others	−0.58 (0.69)	−0.04 (0.05)	0.401
Payment for consultation			
No payment needed (Reference)			
Payment applied	2.81 (1.12)	0.34 (0.13)	0.013*
Self perceived health status			
Excellent/very good (Reference)			
Good	−0.36 (1.26)	−0.02 (0.09)	0.773
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)			
Chronic condition	1.61 (0.70)	0.14 (0.06)	0.022
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			
>20 (Reference)			
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

*$P < 0.05$.
**$P < 0.01$.
***$P < 0.001$.
[†]Adjusted coefficients and standard errors derived from multiple linear regression by full information maximum likelihood.

TABLE 4. TCM Modalities andChinese-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***	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

	5 Fully Understand Your Concerns			6 Showing Care and Compassion			7 Being Positive			8 Explaining Things Clearly			9 Helping You to Take Control			10 Making a Plan of Action With You		
Standardized Coefficients (SE)[†]	β_{adj}	(SE)[†]	***P***	β_{adj}	(SE)[†]	***P***	β_{adj}	(SE)[†]	***P***	β_{adj}	(SE)[†]	***P***	β_{adj}	(SE)[†]	***P***	β_{adj}	(SE)[†]	***P***
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.

*$P < 0.05$.

**$P < 0.01$.

***$P < 0.001$.

[†]Adjusted coefficients and standard errors derived from multiple linear regression using full information maximum likelihood.

T&CM practitioners.[20] Two studies from the United Kingdom reported overall CARE scores of 42 to 45 among participants receiving acupuncture services[25,26] These studies have also shown that the CARE questionnaire is valid for use in complementary medicine setting.[25,26] A Japanese study and a Scottish study conducted in primary care settings reported mean scores of 38.4[39] and 45.6,[21] respectively, and a German study conducted in an oncology setting found a mean score of 37.1.[40]

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;[22] or (ii) paternalism in decision making is often accepted, or desired, especially among older patients with lower socioeconomic status.[23,24] 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.[25,26]

The interaction between acupuncturists and patients is considered to be a major contributor to the nonspecific effects of acupuncture on positive health outcomes,[27] such as greater pain reduction and improvement in physical functioning among patients with chronic pain.[28] 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.[29] As CM massage often takes place in communal treatment spaces separated by curtains, a lack of privacy may pose difficulties for massage therapists in terms of communicating effectively with patients.[30]

Short duration of consultation and long waiting time were associated with lower levels of perceived empathy.[31–33] Clinicians usually need to spend more time talking and explaining problems with older participants, and this may provide an explanation for older participants' higher CARE scores.[34]

In this study, participants who did not pay for their consultations had significantly lower total Chinese CARE scores. In charity and semipublic CM clinics, patients are entitled to receive fee waivers if they are already receiving social benefits. A previous study in Scotland found that those who were socially disadvantaged often received less emotional support and enablement from primary care doctors, despite suffering from more complex health problems.[33] One of the possible reasons for the observed lower score for this group is that CM clinicians were less inclined to offer psychosocial support, information, and involvement in treatment decision during consultation with patients from a lower social class. These participants might perceive that clinicians spent less time with them and failed to explain disease and treatment decisions clearly.[35] Low socioeconomic status appears to be associated with poorer perceived empathy.[36] The observed relationship between socioeconomic status and perceived empathy could be influenced by both the ''health literacy'' level of patients and the communication skills of the clinicians.[35] Especially as the use of CM has been found to be more common among disadvantaged patients in Hong Kong,[37] appropriate measures are needed to improve their participation and empowerment during CM consultations.[38]

In this study, we reduced selection bias by a stratified sampling strategy to recruit a representative sample of charity and semipublic CM users from 3 types of clinics across 3 different CM modalities. The present results should be interpreted only as a description of the level of empathy perceived by 3 groups of participants who consulted different CM modalities. Future research should be attempted to evaluate the performance of CM practitioners at an individual level. By specifying which CM practitioners participants have consulted, researchers will be able to conduct linear mixed model analyses to adjust for potential clustering effects. This study has several limitations. First, attendees were asked to evaluate their perceived empathy within CM clinic settings, and thus an inflation of the Chinese CARE score could be caused by social desirability bias. Second, although we have attempted to compare our findings with results from studies focusing on conventional care, this comparison should be regarded as exploratory because we did not recruit patients who used both CM and conventional services. Future research should focus on determinants of the CARE scores of patients using both services, including professional, contextual and organizational factors that may determine the mode of clinician–patient interactions.[31]

CONCLUSION

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,[4] 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.[16] In Hong Kong, all Chinese medicine practitioners are formally regulated under the 3 streams of herbalism, acupuncture, and therapeutic massage (bone setting).[39] As the Chinese Medicine hospital is yet to be established locally,[40] 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 maybe considered in the auditing of quality of care provided by Chinese and western medicine clinicians in Hong Kong.

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