Views on traditional Chinese medicine amongst Chinese population: a systematic review of qualitative and quantitative studies

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Abstract

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Background Health-care professionals worldwide have started to appreciate patients' perspectives on the use of complementary and alternative medicine (CAM) particularly given its popularity. However, cultural perspectives may vary and it may not be possible to apply research findings on the use of CAM from the west to the east.

Objective This systematic review aims to synthesize usage patterns of traditional Chinese medicine (TCM) amongst Chinese populations in different parts of the world and explore potential geographical variations.

Search strategy Six international and four Chinese databases were searched, and manual searches of relevant monographs and government publications were carried out.

Inclusion criteria Quantitative, qualitative or mixed-method research that aimed to investigate Chinese patients' perception of, and perspectives on, TCM was included.

Data extraction and synthesis For each study included, texts under the headings of 'results' or 'findings' were extracted and subjected to analysis. A thematic synthesis approach was adopted for synthesizing qualitative and quantitative studies.

Main results Amongst the 28 studies included, twenty were quantitative surveys, six were qualitative studies and two were mixed-method studies. The overall methodological quality was mediocre. Data synthesis suggested that patients from all regions share a common cultural affinity to TCM and consider it to be an effective complement to western medicine (WM) for treating chronic or serious diseases. However, heterogeneous views on (i) disclosing TCM use to WM doctors and (ii) the potential harm of herbs emerged across different study locations.

Discussion and conclusions Future research should explore how variation in health systems may influence patients' perception of CAM in different countries.

Introduction

Under the context of increasing use of complementary and alternative medicine (CAM) in developed countries,¹ clinicians need to understand their patients' beliefs and choices for CAM as well as those for allopathic Western medicine (WM) to enable a meaningful consultation with patients on the topic. However, such engagement is difficult as training in CAM is lacking in many WM institutions,² and in addition, patients are often reluctant to disclose their CAM use to clinicians.³ A call for greater understanding of patients' views on CAM has been launched,⁴ and relevant research has flourished in the past decade. Published in 2007, Bishop *et al.* systematically reviewed 94 quantitative and qualitative studies on patients' beliefs on the use of CAM, in which 89 sampled only American, Australian, Canadian or European participants.⁵ Whilst the review contains rich information about Western populations' views on CAM, the absence of an Asian perspective is evident. In the context of globalization and associated migration, widening clinicians' understanding of CAM use in different cultures may be considered as a timely endeavour, particularly with the expected increase in ethnic and cultural diversity amongst patient populations within urban health-care settings.⁶

Traditional Chinese medicine and Chinese patients' perspective

Traditional Chinese medicine (TCM) is a major form of ancient medicine in Asia and its use is prevalent in almost all ethnic Chinese societies. Chinese patients are expected to have a different perspective on TCM compared with CAM patients from the West, as there are several important differences between TCM and CAM. Firstly, the scope of TCM modalities is clearly confined to Chinese herbal medicine (CHM), acupuncture, therapeutic massage and Qigong.⁷ This contrasts starkly with the highly diverse typology of CAM modalities in the West.^{8,9} Secondly, there is a difference in the

philosophical basis of CAM and TCM. Whilst the former is mosaically affiliated to various schools of thoughts, all TCM modalities are uniquely rooted in the ancient Chinese philosophies of Confucianism, Buddhism and Taoism. The balance of Yin and Yang, as well as the harmonious flow of Qi and Blood, are considered to be essential for the maintenance of good health.¹⁰ Lastly, while CAM is not often regarded as an integral part of health system in many Western countries, TCM is fully recognized as part of the Chinese health system. TCM is not considered as an alternative form of treatment compared to WM, but an integrative complement to WM. Paying equal attention to both TCM and WM is an official health policy of the Chinese government. In 2006, 10–20% of all health-care services in Mainland China were delivered by the TCM sector. Among all hospitals in China, 90% have set up dedicated TCM departments, 13.8% are specialized TCM hospitals and 1.1% are integrated TCM–WM hospitals.¹¹

In view of the differences between TCM and CAM described previously, current understanding of Western patients' perspectives on CAM may not be applicable in explaining how Chinese patients view TCM. However, there is a lack of literature synthesis that focuses on Chinese populations and TCM use. To fill this research gap, we have performed a systematic review of quantitative and qualitative studies of Chinese populations' view of TCM. Of note, existing systematic reviews on patients' views tended to collate studies from multiple health systems and cultures, in which the impacts of these contextual factors on synthesis results are often not addressed or discussed. In this synthesis, we have attempted to compare and contrast findings from studies with Chinese participants originating from different geographical areas (e.g. Mainland China, Taiwan, Hong Kong and Chinese living overseas).

Objective of this review

The main objective of this systematic review is to assist doctors trained in WM, public health

workers and policy makers to gain a deeper understanding on the usage pattern of TCM amongst Chinese populations in different parts of the world. The secondary objective is to determine how variations in TCM policies in different health systems may shape Chinese populations' views of TCM.

Methods

Search strategies and study selection

We searched six international electronic databases (MEDLINE, EMBASE, AMED, PsychINFO, CINAHL and British Nursing Index) and four Chinese databases (China Journal Full Text Database, Chinese Medical Current Content, SinoMed CBM and Taiwan Periodical Literature Database) from their respective inception dates to July 2009 for qualitative studies and quantitative surveys that investigated Chinese people's views on TCM. There was no restriction on locations of the study populations (China, Taiwan, Hong Kong, Macao or overseas; search terms are stated in Table 1). We also manually searched potentially relevant monographs and government publications in the Chinese University of Hong Kong library. Inclusion criteria are (i) original empirical investigations that have employed qualitative, quantitative or mixed-method approaches; (ii) research that is aimed at investigating the public's and patients' perception of and perspectives on TCM (i.e. studies that have 'placed people's own voices at the centre of their analysis'¹²) and (iii) research that is focused on Chinese populations. Exclusion criteria are (i) studies aimed at quantifying TCM utilization prevalence or incidence; (ii) research that has focused on issues unrelated to how the participants view TCM and (3) review articles. There were no restrictions on publication year or language. Two reviewers independently screened the titles and abstracts to assess their eligibility. Full texts of potential citations were retrieved for detailed examination. The final decision on inclusion was made by consensus adjudication.

Assessment of methodological quality

The methodological quality of all included studies was evaluated independently by two reviewers (VC and LCH) using the criteria proposed by Mills *et al.*¹³ (Table 2). Given that there was no widely accepted method for excluding quantitative or qualitative studies from systematic reviews based on their quality,^{14,15} we included all studies regardless of their methodological quality. To estimate the impact of quality variation on the synthesis, we assessed the relative contribution of studies that satisfied <2 quality criteria.

Data extraction and synthesis

For each study included, texts under the headings of 'results' or 'findings' were extracted and subjected to analysis by two investigators (VC and PM). A thematic synthesis approach was adopted for synthesizing qualitative and quantitative studies.¹⁶ This included a three-stage approach of (i) line-by-line coding of findings of the primary studies; (ii) development of descriptive themes and (iii) generation of analytical themes.¹⁷ Specifically, the extracted texts were read by one investigator (VC), and possible broad themes were identified by line-by-line

Table 1 Search terms for this review

No.	Search keywords
1	*Complementary therapies/
2	*Medicine, Chinese Traditional/
3	*Medicine, Oriental Traditional/
4	*Drugs, Chinese Herbal/
5	*Acupuncture Therapy/
6	*Acupuncture/
7	*Massage/
8	1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7
9	exp Asian Continental Ancestry Group/
10	chinese.mp.
11	9 AND 10
12	exp China/
13	exp Taiwan/
14	exp Hong Kong/
15	exp Macao/
16	11 OR 12 OR 13 OR 14 OR 15
17	8 AND 16

coding. If these emergent themes occurred repeatedly across and within the extracted results, they were noted as recurrent themes. Meanwhile, another investigator (PM) coded all the extracted data line by line and generated recurrent themes independently. Subsequently, the two investigators reached consensus upon the recurrent themes and continued to examine the similarities and differences between these themes. Based on consensus between the two reviewers, these themes were then grouped into a model structure of descriptive themes. A draft summary of the descriptive theme was written up by one author (VC), and illustrative quotations from participants of qualitative studies were reported purposefully as supporting data. This draft was subsequently commented on critically by all other authors before finalization. Based on the final version of descriptive theme, we developed analytical themes by comparing our results with existing literature on western patients' perspectives on CAM, with an aim to 'provide(s) some theoretical or conceptual development that moves beyond the findings of any individual study included in the synthesis'.¹⁸

Results

Study selection and characteristics

We screened 2879 abstracts from electronic search, and 39 full texts were retrieved for fur-

ther assessment. With the application of exclusion criteria, 14 papers were considered ineligible.^{19–32} Finally, 25 studies from electronic searches were included. Three relevant studies were also found via the library search. Hence, in total, 28 studies were included in this review. Figure 1 presents results of the literature search and classification flow, and Table 3 provides details of characteristics and methodology quality of all included studies. Amongst the 28 included studies, twenty were quantitative surveys, six were qualitative studies and two were mixed-method studies. Of the 20 quantitative studies, two were conducted in Mainland China, three in Taiwan and ten in Hong Kong. The remaining five were carried out overseas. Of the qualitative studies, one was conducted in Mainland China, two in Hong Kong and three overseas. In addition, two mixed-method studies were carried out, one in Hong Kong and one overseas. With reference to the five methodological criteria for quantitative study proposed by Mills *et al.*, we defined quantitative studies that met three or more criteria as high-quality studies, and those scoring below three as low-quality studies. On the other hand, for the eight methodological criteria for qualitative studies, we defined studies that met five or more criteria as high-quality studies, and those scoring below five as low-quality studies. In the following section, we will first report findings according to their study region and methodological quality, so

Table 2 Methodological quality assessment criteria*

For quantitative studies	For qualitative studies
(a) Survey questionnaire being piloted in the target population (Y/N)	(f) Qualitative data were transcribed in verbatim (Y/N)
(b) Face validity of the survey questionnaire was assessed (Y/N)	(g) Pre-defined questions were designed prior to interview (Y/N)
(c) Random sampling performed (Y/N)	(h) Focus-group facilitators were trained (Y/N)
(d) Response rate was reported (Y/N)	(i) Data saturation was mentioned (Y/N)
(e) Attempts to contact non-respondents were made (Y/N)	(j) Data analysis method was reported (Y/N)
	(k) Data analysis was performed by more than one investigator (Y/N)
	(l) Interview transcripts were reviewed for clarification during data analysis (Y/N)
	(m) Quotes from the original data were presented (Y/N)

*For mixed-method studies, both set of criteria will be applied.

Figure 1 Literature search and classification flow.

that their effects on how respondents express views on TCM can be illustrated. Subsequently, deeper elaboration of similarities and differences in findings will be presented.

Findings by regions

Findings from Mainland China

Three studies were carried out in Mainland China, including one high-quality³³ and two low-quality studies.^{34,35} The high-quality study, conducted by Xu *et al.*, explored the use of TCM as a complement to chemotherapy amongst cancer patients. The perceived advantages of combined use include the reduction of side-effects associated with chemotherapy and providing tonic effects to the weakened body.³³ *'I prescribed myself herbs. I used herbal dressings to treat my skin ulcer and herbal decoctions for hair loss, which were induced by radiotherapy. After chemo, my platelet count was very low and my general condition was bad. Western medicine had no good solutions for me. After taking herbal decoctions, the platelet count increased quickly and remained stable thereafter. I also used herbal inhalations to control the vomiting, and decoctions to prevent liver toxicity*

*related to long-term use of chemo drugs'.*³³ Although the effect of co-using WM and TCM is believed to be synergistic in the long term, fear of disapproval often inhibit patients from disclosing their co-medication behaviours to WM doctors.³³ *'The effect of herbs was very good ... but I didn't tell my physician that I was receiving TCM herbal treatment since he doesn't believe in it'.*³³

In similar vein, results from the two low-quality studies on general patients also indicated that TCM is often chosen for treating chronic diseases or conditions that cannot be cured completely by WM.^{34,35} In the latter case, TCM theory is often used to interpret the pathogenesis of illness and to guide self-care practices. Nevertheless, TCM is considered to be slow in demonstrating effect, is inconvenient to use and is becoming more unaffordable in recent years.³⁵ WM remained to be their first choice given its quick treatment effect.^{34,35} Regardless of methodological quality, all three studies highlighted that friends and family members are regarded as the main source of TCM information.^{33,34} *'I got to know TCM cancer therapy from other patients in a cancer recovery club. Almost all patients in this club have used TCM herbal treatment and they told me the effect was very good ...'.*³³

Findings from Taiwan

All three Taiwanese studies were of high methodological quality.^{36–38} Themes related to the use of TCM theory in understanding illnesses, as well as the strengths and weaknesses of TCM, largely resembled findings from Mainland China. However, these Taiwanese studies did provide additional themes on the comparison between TCM and WM. WM has strengths in managing serious conditions, but its lack of ability in *'clearing the root of disease'* is considered to be a major downside. On the other hand, TCM is regarded to have special strength in body invigoration and health promotion, which is an area where WM has very little to offer.^{36–38} Other than advice from friends and family, the role of insurance possession in determining TCM use is also

Table 3 Characteristics and methodological quality of included study

Sample location	Study and publication year	Study year(s)	Sample size	Response rate (%)	Data collection	Sampling methods	Study type	Methodological quality	Quality of study
Hong Kong	1. Lam 2001 ⁴⁴	1997	29	87.9	Eight focus-group interviews	Not reported	Qualitative study	f, g, h, j, k, m	High
	2. Simpsons 2003 ⁴¹	Not reported	20	Not reported	Semi-structured in-depth interview	Not reported	Qualitative study	f, g, j, k, m	High
	3. Hong Kong Thematic Household Survey (THS) 1999 ³⁹	1999	10 057	77.0	Face-to-face household survey	Random sample drawn from a Hong Kong population representative sampling frame	Quantitative study	a, c, d, e	High
	4. Hong Kong Thematic Household Survey (THS) 2001 ⁴⁰	2001	10 046	76.0	Face-to-face household survey	Random sample drawn from a Hong Kong population representative sampling frame	Quantitative study	a, c, d, e	High
	5. Lam 1994 ⁴²	1989–90	1068	70.0	Telephone survey	Random sample of households was selected from the residential telephone directories of Hong Kong.	Quantitative study	c, d, e	High
	6. Wong 1997 ⁴⁶	1992–93	7570	82.8	Telephone survey.	Random sample of Hong Kong Chinese living in Taiipo district, ≥ 18 years	Quantitative study	c, d, e	High
	7. Lau 2001 ⁴⁵	1995	4335	54.2	Face-to-face survey	Random sample from Kwun Tong district	Quantitative study	c, d, e	High
	8. Cheung 2005 ⁴³	2004	819	Not reported	Household survey	Not reported	Quantitative study	b, c, d	High
	9. Chan 2002 ⁴⁷	2000	40	Not reported	Face-to-face survey and semi-structured interview	Not reported	Mixed-method study	a, b, g, j	Low for both quantitative and qualitative components
	10. Wong 1995 ⁴⁸	1989–90	2822	76.0	Telephone survey.	Regionally stratified random sample of Hong Kong Chinese ≥ 18 years	Quantitative study	c, d	Low
	11. Critchley 2005 ⁵⁰	2002–03	259	Not reported	Face-to-face survey	Not reported	Quantitative study	a, b	Low

Table 3. Continued

Sample location	Study and publication year	Study year(s)	Sample size	Response rate (%)	Data collection	Sampling methods	Study type	Methodological quality	Quality of study
Taiwan	12. Lee 1980 (Part A: KTHABS, Part B: HKWUFS) ⁵¹	Part A: 1972 Part B: 1977	702 550	Not reported N/A	Face-to-face survey with household heads Not mentioned	Sampling frame confined to Kwun Tong district but details not mentioned Proportionally stratified (according to housing type and district) random sample of urban living Chinese adults aged 20–59	Quantitative study	c	Low
	13. Wong 2009 ⁴⁹	2006	98	Not reported	Face-to-face interviews	Convenience sample of mothers of children with Autism Spectrum Disorder at a specialist outpatient clinic	Quantitative study	None	Low
	14. Kang 1994 ³⁷	1989	1300	76.5	Face-to-face interview	Random systematic sampling of patients from 26 outpatient clinics	Quantitative study	a, b, c, d	High
	15. Hou 1999 ³⁶	1994	2072	96.6	Self-administered questionnaire after face-to-face explanation.	Random systematic sampling of patients from 26 outpatient clinics.	Quantitative study	a, b, c, d	High
China	16. Lew-Ting 2005 ³⁸	2002	1517	87.1	Taiwan wide telephone survey	Sampled with random digit-dialling technique	Quantitative study	a, b, c, d	High
	17. Xu 2006 ³³	2002	22	Not reported	Two Focus-group interviews	Not reported	Qualitative study	f, g, h, j, k, m	High
	18. Xie 2004 ³⁵	2001	23 813	Not reported	Household face-to-face interview	Not reported	Quantitative study	None	Low
	19. Huang 2007 ³⁴	2007	1161	Not reported	N/A	Not reported	Quantitative study	None	Low
Canada	20. Zhang 2002 ⁵⁴	Not reported	19	Not reported	Semi structured in-depth interview	Not reported	Qualitative study	f, g, i, j, k, l, m	High

Table 3. Continued

Sample location	Study and publication year	Study year(s)	Sample size	Response rate (%)	Data collection	Sampling methods	Study type	Methodological quality	Quality of study
Canada	21. Lai 2009 ⁵⁶	2002	2949	77.0	Face-to-face household survey	Random samples with Chinese surnames were drawn from published telephone directory	Quantitative study	b, c, d	High
UK	22. Green 2006 ⁵⁵	Not reported	42	Not reported	Semi-structured in-depth interview	Not reported	Qualitative study	f, g, i, j, k, m	High
UK	23. Bishop 2009 ⁵³	2007	1053	17.0	Online self-administered survey	All ethnic Chinese students in the university were sampled	Quantitative study	b, c, d	High
US	24. Wong-Kim 2007 ⁵⁷	Not reported	30	Not reported	Semi structured in-depth interview	Not reported	Qualitative study	f, g, h, j, k, m	High
US	25. Ma 1999 ⁵⁸	Not reported	75	Not reported	Participant observation, semi-structured interview, case study and face-to-face survey	Not reported	Mixed-method study	f, g, j, k, m	High
US	26. Wade 2007 ⁵²	2001	804	73.0	US wide telephone survey	Random sample from commercial sampling frame that represents approximately 75% of the US Census estimate of Chinese household.	Quantitative study	a, b, c, d	High
US	27. Yang 2009 ⁵⁹	2002–03	90	24.0	National telephone survey	Random digit-dialling method were analysed	Quantitative study	c, d	Low
US	28. Wu 2007 ⁶⁰	2003	198	96.6	Face-to-face survey	Convenience sample of adult attendees of two non-profit federally funded community health centre.	Quantitative study	d	Low

TCM, Traditional Chinese Medicine; TCMP, Traditional Chinese Medicine Practitioners; WM, Western Medicine; WMD, Western Medical Doctors. Key to methodological assessment criteria: (a) whether the survey questionnaire was piloted amongst members in the target community, (b) whether the survey questionnaire was assessed for face validity, (c) whether the survey population was randomly selected, (d) whether the response rate was calculated, (e) whether attempts to contact non-responders were made, (f) whether the data were transcribed verbatim, (g) whether the questions were pre-defined if interviews were conducted, (h) whether the facilitators were trained if focus group were conducted, (i) whether saturation were mentioned, (j) whether a description on research theme identification method was reported, (k) whether the research findings were analysed by more than one assessor, (l) whether participants' answers were reviewed for clarification and (m) whether sequence (quotes) from the original data were presented.

emphasized.³⁶ Concerns about disclosing TCM use to WM doctors were not mentioned.

Findings from Hong Kong

Eight studies are of high^{39–46} and five of low^{47–51} methodological quality. Echoing findings from Mainland China and Taiwan, themes on the strengths and weaknesses of WM and TCM, as well as the role of friends and family, were highlighted by Hong Kong studies regardless of methodological quality.^{39,40,43–45,47–51} The perceived synergistic benefits of co-using TCM and WM are also acknowledged,^{41,44,47,49,51} but as with the findings from Mainland China, fear of WM doctors' disapproval was a major barrier to disclosure.⁴⁹

Studies from Hong Kong highlighted several barriers to TCM use. In three studies of high quality^{41–43} and one study of low quality,⁵⁰ participants expressed concerns about the quality and safety of herbal products, as well as doubts about the government's effectiveness in regulating herbal medicine.^{41–43,50} 'A lot of Chinese doctors started producing their own prescriptions, but people got poisoned'.⁴¹ One high-quality study highlighted potential adverse effects of herb–drug interactions as an inhibitor for co-using WM and TCM.⁴¹ Besides these barriers, one high-quality study reported that low accessibility and high cost of WM services are important predictors of TCM use in a primary care system dominated by the private sector.⁴⁵

Findings from overseas

Amongst the nine studies sampling overseas Chinese, seven were regarded as high-quality^{52–58} and two as low-quality^{59,60} studies, respectively. Regardless of methodological quality, core themes on the use of TCM theory in interpreting illness, comparative characteristics of WM and TCM and the influence of friends and family in determining TCM use had emerged.^{52–55,58,60} One low-quality study mentioned participants' reluctance to disclose TCM use to WM doctors,⁵⁵ and another low-quality study attributed non-disclosure to the fact that patients were not being asked about TCM use

during consultation.⁶⁰ Similar to findings from Hong Kong, concerns on the lack of regulation of TCM, as well as of the potentially harmful effect of herb/drug interactions, had also been raised in a high-quality study.⁵⁷

Of note, dissatisfaction with WM doctors' communication skills was highlighted as a reason for TCM use in two high-quality studies.^{54,55} 'Unlike Chinese doctors who trace back the patients' medical history for several months, Western physicians' (rheumatologists) diagnosis is only based on the lab result on the day you visit him. They absolutely did not pay any attention to my feelings and past illness experience'.⁵⁴ In addition, these studies provided an opportunity for examining the effect of acculturation on TCM use. It was reported that the use of TCM remained prevalent amongst first-generation immigrants and those with a lower degree of acculturation, while highly acculturated Chinese were more likely to use locally popular CAM instead of TCM.^{52,55,56,58,60} 'Chinese patients almost always want to call and visit Chinese doctors because of the mutual sympathy, common language, and flexible appointment schedules'.⁵⁸ Finally, high cost and lack of insurance coverage were also cited as barriers to accessing TCM services.^{52–55} 'It is expensive to see a Chinese doctor here... I seldom buy Chinese medicine here because it is so expensive here'.⁵⁵

Commonality of findings across regions

Cultural beliefs in, and lay understanding of, TCM

In all the studies included, faith in cultural wisdom and heritage appeared to form the cornerstone of the Chinese populations' trust in the efficacy of TCM. Lay applications of ancient Chinese philosophies and TCM theories like Yin–Yang and Qi–Blood are commonly used to explain aetiology, to interpret symptoms and to provide the rationale for self-care practices. Even when faith in TCM is lacking, it may still be used as a pragmatic response for coping with illness. Given the strong bonding between the Chinese lifestyle and theories of health-keeping in TCM, it is plausible that

TCM's rhetoric is omnipresent in Chinese communities' everyday life. This may explain why Chinese populations perceive TCM as a lay form of health care as well. Decision making in TCM use seems to be of a collective nature, with significant participation by family members and close social contacts. This may be interpreted as a representation of Chinese custom and Confucian philosophy in health-care decision making, in which the expression of concern is embodied in the recommendation of TCM treatment.

Perceived strengths and weaknesses of TCM and WM

Findings from reports of varying origin and quality shared a common observation that TCM is perceived as an effective health-care option for treating health problems that are '*incompatible with biomedical explanations*'. The perceived effectiveness of TCM in treating these conditions is characterized by its strength in (i) providing tonic care; (ii) individualizing treatment to suit different health needs; (iii) delivering thorough therapeutic effects that '*clear the root of the disease*'; (iv) causing few side-effects, being generally safer and '*more acceptable to the body*' and finally (v) serving as guidance for health promotion, for example, the adoption of a balanced diet and traditional Chinese exercises. These lay impressions of TCM are mirrored by the perceived strengths and weaknesses of WM. WM is considered to be '*powerful and quick*' and hence more appropriate in treating minor ailments or serious illnesses, despite potential side-effects. For minor illnesses, it is expected that a quick control of disease progress would be achieved using WM, while TCM would be used as a second resort. On the other hand, it is recognized that TCM alone would not be sufficient for treating serious illnesses. In these circumstances, TCM is often used to '*cut the tail of the illness*' after WM has achieved the remission of an acute condition.

Preference for integrative TCM–WM treatment

Strong beliefs in the complementary nature of TCM and WM were repeatedly highlighted in

the studies included. It is commonly believed that the synergistic use of both medicines would yield a better outcome than using either one alone. The perceived synergistic advantage of integration is mainly confined to the improvement of physical health outcomes. Holistic advantage would be achieved when the side-effects of WM are minimized, whilst the tonic effects of TCM are maximized. Patients with chronic or serious illnesses are more likely to opt for integrated TCM–WM treatment, because they perceive that simultaneous use of both modalities would holistically address their complex therapeutic needs. For example, patients with rheumatoid arthritis thought that WM would provide rapid control of symptoms and better access to laboratory tests that monitor progress, while TCM would relieve the side-effects of Western medication and provide a tonic effect.⁴⁷ Simpson reported that patients with cancer shared a similar perception: '*With cancer, chemotherapy and radiotherapy is a must. After that, we use Chinese medicine to adjust the body*'.⁴¹ These comments reflected the perceived value of choosing an integrative approach: the assumption is that co-use of TCM and WM would cancel out the weaknesses of both modalities, while retaining their respective strengths.

Differences in findings across regions

Despite patients' preference for integration, respondents from Mainland China,³³ Hong Kong⁴⁹ and overseas⁵⁵ appeared to be reluctant to disclose their TCM use to WM health-care professionals. In Hong Kong⁴⁵ and overseas,^{55,58} dissatisfaction with, and lack of access to, WM services were considered as predictors for TCM use, but this was not the case in Mainland China and Taiwan. Furthermore, studies from Hong Kong^{46,53,55} and overseas⁵⁷ have highlighted patients' concerns about harmful herb/drug interactions and poisoning, as well as their doubts about regulatory measures implemented by the government. However, these themes were not emerged in studies from Mainland China and Taiwan.

Discussion

In this review, we strove to ensure methodological rigour by following previously applied methods for systematic reviews of patients' experience and perspectives. With a three-stage systematic approach of extensive literature search, methodological quality assessment and thematic data analysis, we synthesized 28 quantitative and qualitative studies on how TCM is viewed by people who considered themselves to be of Chinese ethnicity. Application of the qualitative synthesis strategy allowed us to cope with diverse types of evidence encountered in this review⁶¹ and served the purpose of highlighting the differences between Chinese and Westerners' views of TCM and CAM. As many of the themes that emerged in this review have appeared repeatedly across various heterogeneous studies, our findings are considered trustworthy.⁶² Given the differences in socio-cultural context, health system organization and training of health-care professionals amongst these locations, the appropriateness of applying our findings to any specific Chinese ethnic group should be judiciously scrutinized, as culture and patients' interaction pattern with health-care professionals may differ amongst members of the same ethnic group.⁶³ However, the wide geographical distribution of the included studies' origin has, at the same time, allowed exploration of varying views across different regions. Two major heterogeneities have emerged in our analysis: (i) differing views on disclosing TCM use to WM doctors and (ii) differing concerns on the potential dangers of herbs and herbs/drug interactions.

With the exception of Taiwan, studies from remaining regions have described respondents' reluctance in disclosing TCM use to their WM doctors. A possible reason for this exception could be the coverage of TCM service by the Taiwanese National Health Insurance Scheme since 1996.²⁶ Given the formal recognition of TCM as part of the health service reimbursement system, citizens are allowed to choose between TCM and WM. Thus, Taiwanese WM doctors may have less power in influencing

patients' choices. On the other hand, TCM practice overseas is yet to be regulated, and negative responses from WM clinicians may occur.^{64–66} Even when TCM practice is being professionalized, as in Hong Kong and China, attitudes towards patients' use of TCM amongst WM doctors may still remain negative. In post-colonial Hong Kong, TCM is being marginalized in the health-care system, and a majority of western-trained doctors are reluctant to recommend TCM to patients.⁶⁷ The influence of marginalization is also reflected in Hong Kong and overseas participants' concerns over the safety of herbal medicines despite their prolonged use. In Mainland China, many TCM clinics and hospitals are replacing TCM with WM practice as the former could not generate sufficient revenue for their survival.¹¹ Subsequently, clinicians are not incentivized to provide or encourage the use of TCM amongst patients who have limited ability to pay.⁶⁸ These varying patterns illustrate how the positioning of TCM in health systems can influence populations' views despite their common cultural affinity with TCM.

While these preliminary comparisons have allowed us to explore how health system context may influence Chinese populations' views of TCM, it is worth mentioning that studies included in this review are predominantly quantitative surveys with mediocre reporting quality on methodological details. Of the twenty quantitative studies, 15 studies performed random sampling (criteria c), 15 studies reported response rate (criteria d), eight studies assessed the face validity of the survey questionnaire (criteria b), seven studies piloted the survey questionnaire in the target population (criteria a) and only five studies attempted to contact non-respondents (criteria e). On the other hand, included qualitative studies are of higher quality. Of the six qualitative studies, all of them transcribed qualitative data in verbatim (criteria f), predefined the questions prior to interview (criteria g), reported data analysis method (criteria j), analysed the data by more than one investigator (criteria k) and presented

quotes from the original data (criteria m). However, only two studies mentioned data saturation (criteria i), one study trained focus group facilitators (criteria h) and one study reviewed interview transcript for clarification during data analysis (criteria l).

Given the difficulties in assessing methodological quality for mixed-method systematic reviews, we have adopted an inclusive approach by not excluding studies based on quality. To evaluate the impact of including methodologically weaker studies on our synthesis, we assessed the relative contribution of studies to our final descriptive themes. Except for one study,⁴⁹ we found that studies that satisfied < 2 methodological criteria^{34,35,51,60} were contributing little to the synthesis (< 2 recurrent themes). Thus, their inclusion was unlikely to cause significant changes in our current synthesis results. Finally, as we have produced findings from large populations, the mediocrity of many included studies may be compensated. The validity of findings from our synthesis would benefit from further verifications from future studies.

Conclusion

It is prudent to suggest that well-designed multidisciplinary studies are needed to advance our understanding on how CAM and TCM are perceived by people of different cultures and ethnicity. Future researches could focus on how TCM is perceived by non-Chinese populations and how other traditional medicines are being perceived by their native populations. These cross-cultural comparative studies would allow us to examine whether the themes that emerged in our synthesis would be applicable to other populations and whether other populations' perceptions of their native traditional medicine would resemble the Chinese case. Finally, in the discussion section, we have demonstrated how health system differences may shape patients' views of TCM. This points to the need to stratify location, as well as methodological quality, in future systematic reviews of patients' views and perception regardless of

cultural origin. These stratified analyses will assist research users in judging how far synthesized findings may be generalized.

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