ORIGINAL ARTICLE

Usage of Traditional and Complementary Medicine (T&CM): Prevalence, Practice and Perception among Post Stroke Patients Attending Conventional Stroke Rehabilitation in A Teaching Hospital in Malaysia

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SUMMARY

Introduction: The lack of evidence that proves the benefit of traditional and complementary medicines (T&CM) in treating chronic medical conditions does not deter its usage among patients worldwide. Prevalence of usage among post-stroke patients in Malaysia especially is unknown. This study aims to determine the prevalence, practice and perception of T&CM use among stroke survivors attending an outpatient rehabilitation program in a teaching hospital.

Methods: A cross-sectional study was conducted among 104 post stroke patients attending an outpatient rehabilitation program. A structured self-administered questionnaire was used to collect data on socio-demographic and clinical profile of patients, as well as types of therapy used and perception on T&CM usage. Descriptive analysis was done, and bivariate analysis was used to determine associations between categorical data.

Results: Mean age of patients was 62 years (SD 12.2), 54% were Chinese and 75% of the patients had ischaemic stroke. Mean age of T&CM users was younger compared to non-T&CM users (61 years vs. 66 years, p=0.04). Two-thirds (66%) of patients admitted to concurrent T&CM usage while attending conventional post stroke rehabilitation. Acupuncture (40.4%), massage (40.4%) and traditional Chinese medicine (11.5%) were the most common T&CM used. Positive perception was recorded in terms of ability of T&CM usage to relieve post stroke symptoms (68%), and it was safe to use because it was made from 'natural sources'. Negative perception recorded: T&CM caused significant adverse effects (57.6%) and was not safe to be used in combination with other conventional medicines (62.5%).

Conclusions: Concurrent T&CM usage among post-stroke patients attending structured outpatient rehabilitation program is widely practised especially acupuncture, massage and traditional Chinese medicines. Overall the perception towards its use is favourable.

KEY WORDS:
Stroke, rehabilitation, complementary therapies, alternative medicine, traditional medicine, acupuncture, Chinese medicine, massage

INTRODUCTION

Despite the scarce evidence on its efficacy and safety, traditional and complementary medicine (T&CM) use in treating chronic medical problems is still widely practised throughout the world. In developing countries such as India, Africa and Chile, the majority of its population are still practising and using traditional medicine to meet its primary health care needs.[1] The usage of T&CM has a high prevalence in the treatment for stroke in Korea (54%) and India (67%).[2] Even in developed countries like United States, Australia, France and Canada, the practice of T&CM ranges from 42% to 70%[3]. Realising this, the World Health Organization (WHO) has come up with the *Traditional Medicine Strategy* that aims to support member states, in developing proactive policies and implementing action plans that will strengthen the role of traditional medicine practice in helping to keep the population healthy.[3]

In a diversely racial and multicultural country like Malaysia, the practice and belief of T&CM efficacy are strong, and its practice is highly prevalent in treating various forms of illness.[4] The Malaysian Ministry of Health defines Traditional and Complementary Medicine (T&CM) as "health related practices designed to prevent, treat, and/or manage illness and/or preserve the mental and physical well-being of individuals".[5] This includes practices and beliefs according to the different races and religions that have been integrated with the local culture i.e. traditional Chinese medicine, traditional Indian medicine, homeopathy and complementary therapies, and excludes medical or dental practices by registered medical or dental practitioners. The advances in technology have resulted in the dissemination of self-proclaimed research findings of T&CM, similarly as in western allopathic medicine.

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In response to the WHO Traditional Medicine Strategy; in developing proactive policies and implementing action plans that will strengthen the role of traditional medicine practices, the Malaysian government has formed the T&CM division of the Malaysian Ministry of Health to ensure standardised quality and safety of the services and products are maintained. It also aims to integrate T&CM to conventional medical practice within the local public health care system by providing T&CM services in some of the selected public hospitals around the country. This effort by the government is timely, as the public perception regarding T&CM is highly positive among the local population.[6] To date, there are nine integrated public hospitals which are offering T&CM services such as traditional Malay massage (urut), acupuncture, herbal oncology and postnatal massage.[5,7] For example, traditional Malay massage and acupuncture services are used to treat chronic pain and stroke patients is now available in the local public hospitals.[8]

Stroke is the leading cause of morbidity worldwide. In Malaysia, stroke remains on the list of the top five leading causes of death in Malaysia since 2008,[9] and in the top five diseases with the greatest burden based on disability-adjusted life years[10]. Although there is no national incidence or prevalence available at present, it has been reported that stroke is one of the main causes of hospitalization in Malaysia, with 52,000 admissions to public hospitals per year.[11] For those who survive the acute episode, a significant number will be disabled and have to depend on others for the rest of their life. Nevertheless, with proper rehabilitation therapies, 30 to 50% of stroke survivors will regain their pre-stroke functional abilities.[12]

By undergoing specific stroke rehabilitation, stroke survivors can achieve their best potential functional independence, which simultaneously improve their quality of life. Good outcomes have been seen in patients undergoing an integrated stroke specific rehabilitation.[13] In our local setting, the coordination of post stroke care after discharge from tertiary care is fragmented, with the further rehabilitation aspect poorly addressed due to accessibility of care issues.[14] For this reason, some patients and their caregivers may have chosen to use alternative and traditional forms of treatment for stroke which are widely available in the community and considered as a 'more natural approach' and, acceptable to their health beliefs, and perhaps even to the extent as a substitute for absence of modern conventional rehabilitation. This study aims to assess the prevalence, practice and perception on T&CM usage among post-stroke patients attending modern conventional rehabilitation therapy at Universiti Kebangsaan Malaysia Medical Centre (UKMMC), a teaching hospital. It is hoped that the findings can pave the way on more studies assessing how T&CM influences post stroke patients in terms of recovery and quality of life, and if a referral to a registered T&CM practitioner at identified public health facility is necessary.

MATERIALS AND METHODS

A cross-sectional study was conducted among patients attending stroke rehabilitation therapies in the Medical Rehabilitation Services Department, Universiti Kebangsaan Malaysia Medical Centre (UKMMC) between March to May 2014. The rehabilitation therapy programme for post stroke patients may consist of individual or a combination of therapies i.e. physiotherapy, occupational, speech and language therapies depending on patients' need and indication. The UKMMC is located in Kuala Lumpur and serves as a tertiary referral hospital with a well-established rehabilitation service provided by 106 dedicated staff providing both outpatient and inpatient rehabilitation services.

A self-administered questionnaire consisting of three main sections was used. Section 1 assessed the background demographic and clinical characteristics of the patients, section 2 assess different practices and usage of T&CM for stroke rehabilitation, and section 3 assess the patients' perception towards T&CM usage for stroke.

For section 2, different types of T&CM were grouped into four main categories: manipulative and body-based practices such as massage and reflexology; biological and organic based therapy which consist of herbs, vitamins and supplements; mind-body medicines like meditation, yoga and specific prayers; and whole medical system such as Ayurveda, homeopathy and acupuncture.[4] To assess the frequency of T&CM usage, we categorised it into three groups, *OFTEN*; when T&CM is used more than once a week, *SOMETIMES*; when used at least once a month and *SELDOM*; when they used it less than once a month.

Section 3 consists of five items with three positive and two negative statements on T&CM usage for post-stroke treatment. Patients' perception was determined using a 5-point Likert scale to indicate the level of agreement or disagreement for each statement. Each item has a minimal score of 5 and a maximum score of 25. Higher scores indicated better perception towards T&CM.

The content of the questionnaire was developed based on a literature search and expert panel input from Family Medicine Specialists with special interests in stroke and chronic care management. Face validation was conducted for feasibility. Reliability testing on the section covering perception (i.e. to check for internal consistency) yielded a Cronbach alpha of 0.7.

Ethical Approval

This research was approved by the UKMMC Research and Ethics Committee (Research ID: FF- 2014-120).

Data Analysis

All statistical analyses were performed using Statistical Package for Social Sciences (SPSS) version 22.0. Descriptive analysis summarised the patients' sociodemographic and clinical profiles. Bivariate analysis was used to determine the association between demographic and clinical profiles with the different practices. We set p value <0.05 as statistically significant.

RESULTS

A total of 104 patients participated in this study. The average age was 62 years old (SD 12.2) with a high preponderance of males at 61.6%. More than half of the patients were Chinese,

Table I: Types of Traditional and Complementary Medicine (T&CM) usage among stroke patients attending rehabilitation based on category

Types of Traditional & Complementary Medicine	Frequency	%
1. Mind body medicine (n=7)		
Meditation	0	0.0
Prayers	3	2.9
Exercise, dance or yoga	2	1.9
Energy healing therapies ie. magnetic healing	2	1.9
2. Biological based (n=13)		
Herbs	8	7.7
Vitamins	2	1.9
3. Whole medical system (n=55)		
Acupuncture	42	40.4
Ayurveda	0	0.0
Homeopathy	1	1.0
Traditional Chinese Medicine	12	11.5
4. Manipulative and body based therapy (n=42)		
Massage	42	40.4
Cupping	3	2.9
Reflexology=	0	0.0
Total	**117**	**100**

Table II: Duration of acupuncture, massage and traditional Chinese medicine usage

Therapy	Median weeks (IQR)	Minimum (weeks)	Maximum (weeks)
Massage	24 (8-57)	1	312
Acupuncture	12 (4-24)	1	10
Traditional Chinese medicine	10 (4-24)	2	84

followed by Malays (44.2%) and Indians (1.9%). Almost two-thirds (61%) of the patients received at least secondary level education, and only 13.5% of the patients were still working during the study period.

Majority of the patients had ischaemic stroke (75%) followed by haemorrhage (18.3%) and other forms of stroke aetiology (i.e. intracranial tumour, trauma) making up the remaining 6.7%. Hemiparesis was the main complication after stroke for most of the patients (94.2%), followed by dysphagia (49%) and dysarthria (65.4%).

Sixty-six percent (69/104) of the patients interviewed admitted to concurrent use of T&CM while attending conventional rehabilitation sessions for their stroke treatment. The average interval between the onset of stroke to initiation of T&CM usage was around six weeks, with the earliest reported within a week after the stroke onset and the latest at 14 months.

Table I shows a summary description of the different types of T&CM usage. Among the four different categories of T&CM, whole medical system was the most popular. Based on individual therapies, acupuncture and massage were the two most popular T&CM used. Traditional Chinese medicine was ranked the third most popular choice among the patients with more than 10% confessed to using Chinese formulary medicines post-stroke.

The average duration of T&CM use was 16 weeks (IQR 4-52). Table II shows the duration of the top 3 most popular T&CM usage in weeks. Massage therapy was reportedly used for the longest duration compared to the other types of T&CM. As for the frequency of T&CM usage, most of the patients used T&CM on a weekly basis regardless of the type of therapy. (Figure 1)

We performed a univariate analysis looking at associations between using T&CM post stroke with their background demographic and clinical profiles but found no significant differences detected except for the age of the patients and presence of hemiparesis/hemiplegia. In this study population, we found that T&CM users on the average were younger with a mean age 61 years old (SD 12.1) than the non-user with a mean age of 66 years old (SD 11.8), p=0.04. All users had hemiplegia or hemiparesis post stroke. (Table III)

Overall, the perception towards the usage of T&CM after stroke was positive. Majority of the patients agreed to the statements that T&CM was helpful in relieving their stroke symptoms (68.3%), considered it 'safe' because they were made from 'natural sources' (74%) and it is recognised by the authorised local medical authority (58.7%). For the negative items, slightly more than half of the patients disagreed that T&CM caused significant side effects (57.6%) , while almost two-thirds considered it dangerous to use together with other conventional medicines (62.5%). (Figure 2)

Table III: Association of patients' socio-demographic and clinical characteristic with T&CM use

	T&CM		p
	User	Non-user	
Age in years mean(SD)	61 (12.09)	66 (11.78)	0.037[a]
Estimated monthly income in RM median(IQR)	2000 (3000)	1250 (2250)	0.074[b]
Gender, n(%)			
Male	45(64.3)	18(52.9)	0.29[c]
Female	25(35.7)	16(47.1)	
Ethnicity, n(%)			
Malay	29(41.4)	17(50.0)	0.461[d]
Chinese	39(55.7)	16(47.1)	
Others	2(2.9)	1(2.9)	
Marital status, n(%)			
Married	55 (78.6)	23 (67.6)	0.227[c]
Single / divorcee	15 (21.4)	11 (32.4)	
Educational level, n(%)			
None	6 (8.6)	5 (14.7)	0.221[d]
Primary	19 (27.1)	11 (32.4)	
Secondary	45 (64.3)	18 (52.9)	
Working status, n(%)			
Employed	10 (14.3)	4 (11.8)	0.725[e]
Unemployed	60 (85.7)	30 (88.2)	
Type of stroke, n(%)			
Ischaemic	53 (75.7)	25 (73.5)	0.809[c]
Non Ischaemic	17 (24.3)	9 (26.6)	
Functional disabilities n(%)			
Hemiplegia/hemiparesis			
Yes	70 (100)	28 (82.4)	0.001[e]
No	0 (0)	6 (17.6)	
Dysphagia			
Yes	36 (51.4)	15 (44.1)	0.484[c]
No	34 (48.6)	19 (55.9)	
Dysarthria			
Yes	47 (67.1)	21 (61.8)	0.589[c]
No	23 (32.9)	13 (38.2)	
Bowel incontinence			
Yes	11 (15.7)	4 (11.8)	0.593[e]
No	59 (84.3)	30 (88.2)	
Urinary incontinence			
Yes	12 (17.1)	5 (14.7)	0.753[c]
No	58 (82.9)	29 (85.3)	

aStudent T test, bMann Whitney test, cChi square, d Linear by linear
eFisher's Exact Test

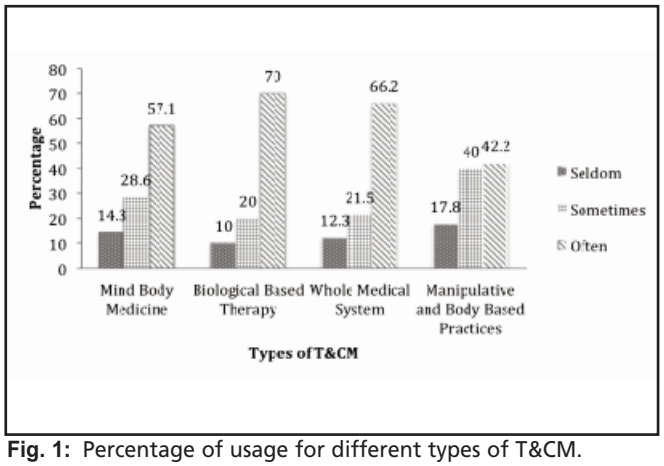

Fig. 1: Percentage of usage for different types of T&CM.

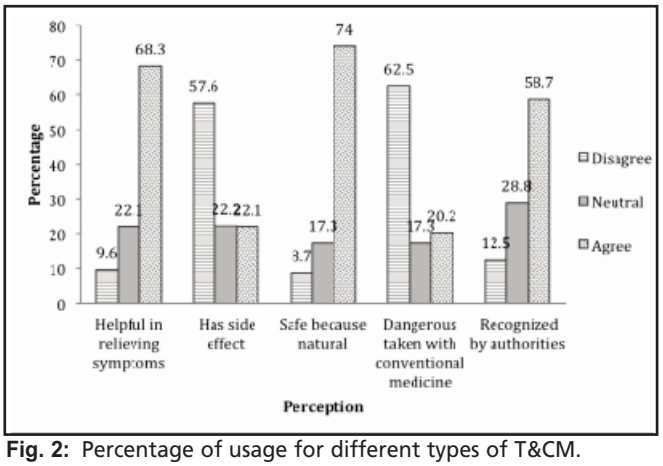

Fig. 2: Percentage of usage for different types of T&CM.

DISCUSSION

Our study demonstrates that T&CM usage among post stroke patients was prevalent with more than two-thirds of patients using either acupuncture, massage or alternative Chinese medicine to complement rehabilitation therapy for stroke recovery. Although physicians may be aware of such self-care measures which patients are likely to indulge in treatment of chronic illnesses,[15] our study is the first to document the prevalence of T&CM practices among post stroke patients in this region.

The T&CM of choice in this population is acupuncture. This may be due to the majority of the population in this study comprised of Chinese patients and were more likely to choose acupuncture to complement rehabilitation therapy. Compared with patients in India, where Ayurvedic medicine is predominantly practised, acupuncture practices among stroke patients were favoured by only 2.3%, as compared to ayurvedic massage that was the T&CM of choice. [16]

On the other hand, among alternative and complementary treatments that have been extensively studied for stroke rehabilitation, acupuncture is the most widely documented. In Cochrane Systematic Review by Wu *et al.*, the authors concluded that acupuncture may be effective in post stroke rehabilitation.[17] However, systematic reviews advocating the routine use of acupuncture in post stroke rehabilitation is lacking due to the poor quality of randomised controlled trials and publication bias on this subject matter.

In terms of duration of usage of T&CM, our study showed that a higher proportion of younger patients were using T&CM along with rehabilitation therapy. We believe that this could be due to the effects of stroke complications that may be perceived to be long-term and hence influence patients to actively seek complementary therapy in an effort to hasten recovery. From literature, we also note that significant functional recovery from stroke is most likely to occur within the first three to six months after the acute stroke.[18,19]

This study provided evidence that the prevalence of T&CM usage i.e. acupuncture, massage and alternative Chinese medicine was high among post stroke patients. This finding has great implications in terms of ensuring that patients are directed to licensed T&CM practitioners. In Malaysia, registration of T&CM practitioners is not mandatory, hence quality of care provided by unregistered T&CM practitioners is uncertain. Complications arising from non sterile and poor aseptic technics used during acupuncture practices are some of the complications that have been documented. Furthermore, patients who seek complementary treatment are more prone to not discuss this matter with their physicians, fearing the latter's disapproval. [2,20] Our study provides evidence that the high prevalence of T&CM use with concurrent rehabilitation, hence this justifies our recommendation that physicians should enquire or advise accordingly i.e. regarding safe T&CM practices and/ or direct them to a licensed T&CM practitioner based at integrated public hospitals which provide these services. It is hoped that by coordinating T&CM with conventional medical care in a shared care approach will enable continuous and adequate monitoring of the patients' progress.

Future research on the use of T&CM should explore in-depth qualitative studies to assess the patients, perception on long-term T&CM therapy among stroke patients and its perceived benefits.

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REFERENCES

1. Payyappalimana U. The role of traditional medicine in primary health care. Yokohama Journal of Social Sciences 2010; 14(6): 57-77.
2. Shin YI, Yang CY, Joo MC, *et al.* Patterns of using complementary and alternative medicine by stroke patients at two university hospitals in Korea. Evid Based Complement Alternat Med 2008; 5(2): 231–5.
3. World Health Organization. WHO Traditional Medicine Strategy 2014-2023. 2013. Available online :www.who.int .
4. Siti ZM, Tahir A, Farah AI, *et al.* Use of traditional and complementary medicine in Malaysia: a baseline study. Complement Ther Med 2009; 17(5-6): 292–99.
5. Shamsuddin S(comps). Ministry of Health Malaysia. Traditional and Complementary Medicine Programme in Malaysia Handbook. Traditional and Complementary Medicine Division, Ministry of Health Malaysia; 2011. Available from: http://tcm.moh.gov.my/v4/pdf/handbook.pdf

6. Abuduli M, Rahimi A, Maimaiti N, *et al.* The practice of traditional and complementary medicine and factors associated with it among the medical staff in Malaysia. BMC Public Health 2014; 14(Suppl 1): O22.
7. Abuduli M, Ezat WP, Aljunid S. Role of Traditional and Complementary Medicine In Universal Health Coverage. Malaysian Journal of Public Health Medicine 2011; 11(2): 1-5.
8. Anuar HM, Fadzil F, Ahmad N, *et al.* Urut melayu for poststroke patients: a qualitative study. J Altern Complement Med 2012; 18(1): 61-4.
9. Loo KW, Gan SH. Burden of stroke in Malaysia. Int J Stroke 2012; 7(2): 165-267.
10. Sivamsampu S, Lim TO, Hisham AN. (comps). National Healthcare Establishments & Workforce Statistics 2008–2009. The National Healthcare Statistics Initiative, Clinical Research Centre. Kuala Lumpur: Ministry of Health, 2011. Available from: http://www.crc.gov.my/nhsi/wp-content/uploads/document/publication/Hospitals_Report.pdf
11. Krishnamoorthy M. Killer stroke: six malaysians hit every hour. The Star online 2007; April 24. Available from: http://www.thestar.com.my/story/?file=%2F2007%2F4%2F24%2Fnation%2F17524877
12. Scottish Intercollegiate Guidelines Network. Management of patients with stroke: rehabilitation, prevention and management of complications and discharge planning. A national clinical guideline 2010. Series 118: Scottish Intercollegiate Guidelines Network. Available at : http://www.sign.ac.uk/pdf/sign118.pdf
13. Langhorne P, Pollock A, Stroke Unit Trialists' Collaboration. What are the components of effective stroke unit care? Age Ageing. 2002; 31(5): 365-71.
14. Abdul Aziz AF, Mohd Nordin NA, Abd Aziz N, *et al.* Care for post-stroke patients at Malaysian public health centres: self-reported practices of family medicine specialists. BMC Fam Pract 2014; 15(1): 40.
15. Hasan SS, Ahmed SI, Bukhari NI, *et al.* Use of complementary and alternative medicine among patients with chronic diseases at outpatient clinics. Complement Ther Clin Pract 2009; 15(3): 152-7.
16. Pandian JD, Toor G, Arora R, *et al.* Complementary and Alternative Medicine Treatments Among Stroke Patients in India. Top Stroke Rehabil 2012; 19(5): 384-94.
17. Wu P, Mills E, Moher D, Seely D. Acupuncture in poststroke rehabilitation: a systematic review and meta-analysis of randomized trials. Stroke 2010; 41(4): e171–e179.
18. Ali MF, Aziz NA, Aznida FAA, *et al.* Prospective study of functional recovery of stroke patients at three months post admission : outcomes and implications for post stroke care provision. Med & Health 2013; 8(1): 19-27.
19. Kwakkel G, Kollen B, Lindeman E. Understanding the pattern of functional recovery after stroke: facts and theories. Restor Neurol Neurosci 2004; 22(3-5): 281-99.
20. Thomas K, Coleman P. Use of complementary or alternative medicine in a general population in Great Britain. Results from the National Omnibus survey. J Public Health (Oxf) 2004; 26(2); 152-7.