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Disclosure of Traditional and Complementary Medicine Use and its Associated Factors to Medical Doctors Among the Longhouse Community in Julau, Sarawak

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ABSTRACT

Traditional and complementary medicine (TCM) practice is increasing worldwide and Malaysia is no exception. Despite the wide use of TCM by the population, there seems to be an issue of not disclosing TCM use to their medical doctor. The aim was to explore the related factors that influence the disclosure of TCM use to medical doctor among respondents in selected longhouses in Sarawak. A cross-sectional study was conducted on 90 respondents from selected Iban longhouses in Julau, Sarikei District. Data was collected via face-to-face interviews based on a questionnaire comprising sociodemographic characteristics, TCM use and disclosure, health profile, healthcare utilization and attitude towards TCM. To determine the factors related to disclosure of TCM use, independent t-test and Chi-square ($\chi 2$) test was used to examine the relationship between various variables and disclosure of TCM use. The mean age of studied participants was 45.20 (±14.92) years and 80% were married. The prevalence of usage of TCM treatment was 70% and the rate of disclosure of TCM use among respondents was 27%. Univariate analyses yielded three main factors that were significantly associated with the disclosure of TCM use among respondents, which were education level, presence of chronic diseases and type of chronic diseases. The rate of disclosure of TCM use in this study was very low, consistent with other local and foreign studies. Thus, other relevant factors that are not studied need to be further explored for better understanding in order to have better integration between TCM and current health system.

Keywords: TCM use, disclosure, longhouse community, Sarawak, attitudes

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INTRODUCTION

Traditional and Complementary Medicine (TCM) is defined as a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine. It is a form of health-related practice across all ethnic groups, that includes homeopathy and complementary therapies but excludes registered medical practices (TCM Division, Ministry of Health Malaysia, 2011). It had gained popularity in both developed and developing countries as it is more accessible, affordable and acceptable to the local population (Zhang, 2015). Studies made in Malaysia reported that 69.4% of the population had used TCM in their lifetime, and about 55.6% of people used TCM within the last twelve months (Siti Zuraidah Mahmud et al., 2009).

Regardless of the wide usage of TCM by the population, there seems to be an issue of not disclosing TCM use to medical doctors by patients. Disclosure of TCM refers to an individual's willingness to share their usage of TCM openly. According to a study conducted by Johny, Cheah & Razitasham Safii (2017), the percentage of disclosure of TCM use to medical doctors among primary care clinic attendees in Kuching Division, Sarawak was low at 9.6%. Besides, a meta-analysis done by Foley et al. (2019) revealed that there was only a 33% disclosure rate for biological-based complementary medicine.

Not disclosing TCM use to a medical doctor while seeking for allopathic treatment could pose harm to the health status of TCM users. While TCM itself could be beneficial and have fewer side effects, usage of both TCM and chemical drugs at the same time could bring about serious adverse effects or reduce the effect of chemical drugs (WHO, 2002). For example, a combination of warfarin and ginseng that has antiplatelet activity can cause over

anti-coagulation (Kleijnen, Knipschild & Riet 1989). Therefore, medical doctors need to learn about the effect of TCM use on their patients' health status.

However, many factors affect the decision to disclose TCM use by the population, such as belief in the safety of TCM, perception of disclosure as unimportant and lack of inquiry from medical providers (Foley et al., 2019). Besides, most patients fear being scolded if they continued making enquiries about TCM (Johny, Cheah & Razitasham, 2017). Moreover, WHO (2002) also stated that lack of knowledge of possible interactions between TCM and chemical drugs can lead to non-disclosure. In other words, attitude towards TCM use can influence disclosure. Healthcare providers need to educate and encourage patients to unveil their TCM use as the private practice of TCM usage in combination with conventional medication might bring about adverse effects or unsafe interactions that can harm the patients. Hence, this study aims to determine the proportion of disclosure of TCM use and factors associated with the decision of disclosing TCM usage to medical doctors among the longhouse community in Julau, Sarawak, Malaysia.

MATERIALS AND METHODS

Study setting

This study was conducted at Rumah Banai Anak Tambat, Nanga Ayam, in Julau, Sarikei, Sarawak. The longhouse consists of twenty doors comprising of approximately 200 residents of mixed ages. The duration of this study is approximately 8 weeks, starting from December 2019 until February 2020.

Sample size estimation

The sampling method to conduct this study was convenience sampling. The sample size was calculated using the open-source calculator by OpenEpi Version 3.01 with the formula, $n = [DEFF*Np(1-p)]/ [(d^2/Z^2_{1-\alpha/2}*(N-1)+p*(1-p)]$, where n=sample size; N=population size, 200; p=hypothesised prevalence of TCM disclosure based on previous study, 9.6% (Johny, Cheah & Razitasham 2017); d=confidence limit, 5%; DEFF=design effect of 1; with 10% inflated considering non-responses, thus, the calculated sample size was 90.

Inclusion criteria

Included were all residents aged 18 years and above, and have neither mental health problems nor chronic medical morbidities.

Data collection

The data were collected by face-to-face interview based on the structured questionnaire. The questionnaires, along with a written consent form, was distributed to the respondents. A short briefing was conducted beforehand to avoid any misunderstandings and to obtain the optimum results from the respondents. A trilingual (Malay, English and Iban) questionnaire was adapted based on the questionnaire used in the "Health Belief Model" and "Anderson's Health Behavioural Model" which involves five sections:

1) Part A: Sociodemographic characteristic: To assess the sociodemographic and economic characteristics of the study participants: gender, age, race, religion, educational level, marital status, occupation, family average monthly income and health insurance.
2) Part B: TCM Use and Disclosure: To assess the usage of TCM as well as participants' disclosure to the doctor.
3) Part C: Health profile of respondents: the questionnaire assesses the health profile of respondents by collecting data on the medical condition and self-rated health status. Respondents asked if they have any chronic medical condition such as hypertension, diabetes mellitus and hyperlipidemia. The self-rated health status of respondents was evaluated by asking: "In general, how would you rate your health today?" with a 5-point Likert scale, "1 = very good" to "5 = very bad".
4) Part D: Healthcare utilisation: data on healthcare utilisation was on the number of clinic visits and hospitalisation for the past 12 months.
5) Part E: Attitude toward TCM Use: This part of the questionnaire was adapted from the previous study and comprised of sixteen items on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) which assessed the perceived benefits with a range score from 11 to 55 and barrier with a range score from 5 to 25 (Chang, Tiralongo & Wallis 2011).

Data analysis

The collected data was recorded, entered, and analysed using Statistical Package for Social Sciences version 22.0. Data cleaning to check for incomplete responses was done before proceeding to the analysis. The studied variables

were presented using percentages and proportions. Categorical data was expressed in terms of mean and standard deviations, while frequency and percentages were used to express the continuous data. An independent t-test was used to examine the relationship between various factors and disclosure of TCM use. Meanwhile, Chi-square ($\chi 2$) test analysis was used to examine the relationship between categorical variables and disclosure of TCM use. A p-value of less than 0.05 was considered to be significant.

RESULTS

Sociodemographic characteristic of the respondents

A total of 90 villagers participated in this study with the mean age of 45.20 ± 14.92 years, as depicted in Table 1. The age of participants ranged from 18 to 80 years old. The majority of them were females (62.2%), and 37.8% were males. Among the respondents, most of them were married (80%) and had a monthly income group of ≤ RM 1,000 (70%).

A percentage of 85.6% of the total respondents attained secondary education and below compared to tertiary level education (14.4%, n = 13). Slightly more than 70% of total respondents worked with various types of occupations where the majority of them worked as farmers (47.8%, n = 43). Besides that, the respondents predominantly do not have health insurance (83.3%).

Table 1. Sociodemographic characteristic of respondents (n = 90).

Variables	Frequency	%	Mean (SD)
Age (years)			45.20 (±14.92)
Gender			
Male	34	37.8	
Female	56	62.2	
Marital status			
Single	11	12.2	
Married	72	80.0	
Widow/divorce	7	7.8	
Educational level			
No formal education	24	26.7	
Primary education	23	25.6	
Secondary education	30	33.3	
Tertiary education	13	14.4	
Occupation			
Unemployed	23	25.6	
Farmer	43	47.8	
Businessman	6	6.7	
Government	4	4.4	
Private	11	12.2	
Retiree	3	3.3	
Monthly Income (RM)			1186.88 (±793.91)
≤RM1000	63	70.0	
RM 1001 – RM 2000	20	22.2	
RM 2001 – RM 3000	1	1.1	
RM 3001 – RM4000	1	1.1	
RM 4001 – RM 5000	4	4.4	
> RM 5000	1	1.1	
Health insurance			
Yes	15	16.7	
No	75	83.3	

Health profile and healthcare utilisation of the respondents

Based on Table 2, the majority of the respondents (56.7%) were diagnosed with chronic diseases. Furthermore, it showed that more than half of the respondents were diagnosed with at least one chronic disease in their lifetime. Three most common chronic diseases were hypertension (37.8%) followed by hyperlipidemia (16.7%) and diabetes mellitus (10.0%). Besides that, more than two-thirds (72.2%) of the respondents had their health rated as good-excellent.

Government clinic recorded the highest number (n=87) for the types of clinic/ hospital most visited among respondents followed by government hospital (n=66). The highest number of respondents (43%) had visited clinic/ hospital "1 to 10 times" in the past 12 months while the least (2%) is more than "20 times". The majority of the respondents (88%) had never been hospitalised in the last 12 months. 8.9% of the respondents had been hospitalised once, and only 3.3% had been hospitalised more than once in the last 12 months.

Table 2. Health profile and healthcare utilisation of the respondents (*N*=90).

Variables	Frequency	%	Mean (*SD*)
Presence of chronic diseases	51	56.7	
Type of chronic diseases			
Hypertension	34	37.8	
Hyperlipidaemia	15	16.7	
Diabetes mellitus	9	10.0	
Gout	7	7.8	
Asthma	6	6.7	
Heart disease	5	5.6	
Cancer	0	0.0	
Stroke	1	1.1	
Others**	5	5.5	
Number of chronic diseases			
0	39	43.3	
1	19	21.1	
2	21	23.3	
3	5	5.6	
4	6	6.7	
Self-rated health status			
Good-excellent	65	72.2	
Poor-fair	25	27.7	
Types of clinic or hospital visited			
Government hospital	66	73.3	
Government clinic	87	96.7	
Private hospital	21	23.3	
Private clinic	30	33.3	
Frequency of clinic/hospital visits within 12 months			2.10 (0.794)
Never	22	25.0	
1 – 10 visits	39	43.0	
11 – 20 visits	27	30.0	
More than 20	2	2.0	
Ever been admitted to the hospital within the past 12 months	11	12.2	
Frequency of hospitalisation in the last 12 months			1.16 (0.447)
Never been admitted	79	87.8	
Admitted once	8	8.9	
Admitted more than once	3	3.3	

Others**: Gastritis, Osteoarthritis, Retinopathy, Thyroiditis

The study also found that 63 (70%) out of 90 respondents reported having ever used TCM in their lifetime to maintain health and treatment.

Further analysis showed that respondents that have used or taken various types of TCM treatments either with or without seeing TCM practitioners within the past twelve months. Among 63 respondents that used or received TCM treatments within the past twelve months, 58.7% (n = 37) have received or used at least one type of TCM treatment, 25.4% (n = 16) have received or used three to five types of TCM, 12.7% (n = 8) of them have received or used six to eight types of TCM, and 3.2% (n = 2) have received or used more than eight types of TCM.

Types of TCM treatment received among respondents

Results showed that there are nine main types of TCM treatments that have been used by the respondents (n = 63) within the past twelve months. The nine main types of TCM treatment received or used by the respondents were traditional herbs, traditional massage, postnatal care, supplement, *manang* (Iban traditional healer), *sampi* (Iban prayer), cupping, and naturopathy, among others.

The traditional herbs (with the highest percentage of 39.7%) was the TCM treatment most practised by the respondents followed by traditional massage with 33.3% and postnatal care with 23.8%. Meanwhile, supplements and *manang* (Iban traditional healer) recorded percentages of 20.6% and 15.9% respectively. Other than that, *sampi* (Iban prayer) and cupping both recorded percentages of 14.3%. Therefore, the least type of TCM treatment received or used by the respondents was naturopathy at 7.9%.

Attitude towards TCM use among respondents

Table 3 shows that more than 60% of the respondents agreed that TCM could improve some of their symptoms. On the other side, more than 40% of the respondents disagreed that using both methods of medications were better than using just one medication. Regarding perceived barriers, more than 50% of the respondents agreed that they do not have enough knowledge to select the right TCM for themselves. Apart from that, more than 60% of the respondents disagreed that usage of TCM may harm the body. The majority of the respondents (73%, n = 46) claimed that they had never disclosed either the use of TCM in their lifetime or even recent usage of TCM within the past twelve months to medical officers.

Factors related to disclosure of TCM used among respondents.

From the results of the independent t-test, there is a significant difference between mean age and disclosure of TCM used. Respondents who were much older with mean age 51.53(12.97) years old tended to disclose their TCM use to medical officers. There is no significant difference comparing respondents with a high and low mean monthly income to the disclosure of TCM use to medical officers. Respondents who have more than one medically diagnosed chronic diseases were significantly higher in their disclosure of TCM use compared to those who are healthy. Based on Table 4, in terms of attitude towards TCM use, the respondents that disclose TCM use and who had perceived benefits towards showed a mean SD score of 37.06 ± 7.19 while those who had perceived barriers towards the disclosure of TCM use had a mean SD score of 14.53 ± 3.83.

Table 3. Attitude of the respondents (*N* = 63) toward TCM use.

Item	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
Perceived benefits					
Using both methods of medication is better than only using one alone	11 (17.5%)	16 (25.4%)	6 (9.5%)	16 (25.4%)	14 (22.2%)
TCM can make body feel better	2 (3.2%)	6 (9.5%)	17 (27.0%)	25 (39.7%)	13 (20.6%)
Will introduce some effective TCM to other people	6 (9.5%)	13 (20.6%)	7 (11.1%)	24 (38.1%)	13 (20.6%)
TCM can improve some of the symptoms	3 (4.8%)	8 (12.7%)	12 (19.0%)	28 (44.4%)	12 (19.0%)
The use of TCM can complement to the shortage of Western Medicine	10 (15.9%)	16 (25.4%)	5 (7.9%)	23 (36.5%)	9 (14.3%)
TCM can easily control illness	3 (4.8%)	6 (9.5%)	16 (25.4%)	30 (47.6%)	8 (12.7%)
The use of TCM has more advantages than disadvantages	2 (3.2%)	9 (14.3%)	23 (36.5%)	21 (33.3%)	8 (12.7%)

Table 3. Attitude of the respondents (*N* = 63) toward TCM use (Contd.)

Item	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
Perceived benefits					
Interested in any kind of TCM which helps body self-healing	6 (9.5%)	10 (15.9%)	11 (17.5%)	29 (46.0%)	7 (11.1%)
TCM can strengthen the effect of western medication	5 (7.9%)	11 (17.55)	16 (25.4%)	25 (39.7%)	6 (9.5%)
The treatment of the alternative therapy is more gentle and safe	2 (3.2%)	11 (17.5%)	22 (34.9%)	23 (36.5%)	5 (7.9%)
TCM can prevent illness complication	3 (4.8%)	18 (28.6%)	20 (31.7%)	17 (27.0%)	5 (7.9%)
Perceived barriers					
TCM may bring terrible interactions with western medication	5 (7.9%)	23 (36.5%)	14 (22.2%)	14 (22.2%)	7 (11.1%)
Do not have enough knowledge to select the right TCM	5 (7.9%)	16 (25.4%)	9 (14.3%)	27 (42.9%)	6 (9.5%)
Consider that using TCM is expensive	15 (23.8%)	26 (41.3%)	7 (11.1%)	11 (17.5%)	4 (6.3%)
Doctor may be opposed to use of TCM	17 (27.0%)	18 (28.6%)	17 (27.0%)	9 (14.3%)	2 (3.2%)
TCM may possibly harm the body	15 (23.8%)	31 (49.2%)	8 (12.7%)	8 (12.7%)	1 (1.6%)

Table 4. Result of *t*-test comparing the mean of age, monthly income, number of chronic diseases and attitude of respondents (*N*=63) toward the disclosure of TCM use.

Variables	Disclosure of TCM use				
	Mean (SD[a])		t-stats (df[b])	Mean Difference (95% CI[c])	*p* value[d, e]
	Yes	No			
Age (years)	51.53 (12.9)	42.37 (14.57)	0.50 (88)	9.160 (1.12,17.20)	0.026
Household income per month (RM)	961.76 (1181.83)	1207.52 (1184.76)	0.85 (88)	-245.757 (-917.75,426.23)	0.467
Number of chronic diseases	1.82 (1.59)	0.98 (1.15)	0.05(61)	0.845 (-1.57, -0.12)	**0.023**
Attitude toward TCM use					
Perceived benefits score	37.06 (7.19)	36.52 (6.10)	0.52 (61)	0.537 (-3.10,4.17)	0.769
Perceived barriers score	14.53 (3.83)	12.59 (3.19)	0.19 (61)	1.942 (0.32,3.85)	**0.046**

[a]*standard deviation*
[b]*degree of freedom*
[c]*Confidence interval*

There was a significant relationship between education level, presence of chronic diseases and types of chronic diseases (heart disease) with the disclosure of TCM used among the respondents. Based on Table 5, there are statistically significant associations between educational level ($\chi^2 = 11.31$, $p = 0.023$) and presence of chronic diseases, ($\chi^2 = 4.75$, $p = 0.029$) towards the disclosure of TCM used. However, out of all the chronic diseases, only heart disease showed a statistically significant association with the disclosure of TCM, ($\chi^2 = 11.56$, $p = 0.004$).

Table 5. Result of χ^2 analysis between sociodemographic characteristic, knowledge, and disclosure of TCM used to a medical doctor (*N*= 63).

Variable	Disclosure of TCM use		χ^2	*p*-value
	Yes n (%)	No n (%)		
Gender				
Male	7 (31.8%)	15 (68.2%)	0.40	0.527
Female	10 (24.4%)	31 (75.6%)		
Marital Status				
Single	0	7 (100%)	6.37	0.095
Married	14 (27.5%)	37 (72.5%)		
Widow/Divorce	3 (60.0%)	2 (40.0%)		
Education				
No schooling	9 (56.3%)	7 (43.8%)	11.31	**0.023**
Primary education	4 (25.0%)	12 (75.0%)		
Secondary education	2 (9.1%)	20 (90.9%)		
Tertiary education	2 (22.2%)	7 (77.8%)		
Occupation				
Unemployed	4 (23.5%)	13 (76.5%)	7.04	0.317
Farmer	9 (30.0%)	21 (70.0%)		
Government	2 (66.7%)	1 (33.3%)		
Private	0	4 (100%)		
Own business	0	3 (100%)		
Others	2 (27.0%)	4 (73.0%)		
Health insurance				
Yes	4 (30.8%)	9 (69.2%)	0.12	0.730
No	13 (26.0%)	37 (74.0%)		
Health profile				
Presence of chronic diseases				
Yes	13 (38.2%)	21 (61.8%)	4.75	**0.029**
No	4 (13.8%)	25 (86.2%)		
Type of chronic diseases				
Hypertension				
Yes	9 (37.5%)	15 (62.5%)	2.18	0.157
No	8 (20.5%)	31 (79.5%)		
Diabetes Mellitus				
Yes	3 (37.5%)	5 (62.5%)	0.51	0.671
No	14 (25.5%)	41 (74.5%)		
Hyperlipidaemia				
Yes	4 (36.4%)	7 (63.6%)	0.60	0.469
No	13 (25.0%)	39 (75.0%)		
Asthma				
Yes	2 (50.0%)	2 (50.0%)	1.15	0.293
No	15 (25.4%)	44 (74.6%)		
Heart disease				
Yes	4 (100.0%)	0 (0.0%)	11.56	0.004
No	13 (22.0%)	46 (78.0%)		
Stroke				
Yes	1 (100%)	0	2.75	0.270
No	16 (25.8%)	46 (74.2%)		
Gout				
Yes	3 (42.9%)	4 (57.1%)	1.01	0.375
No	14 (25.0%)	42 (75.0%)		
Self-rated health status				
Poor-fair	7 (33.3%)	14 (66.7%)	0.65	0.422
Good-excellent	10 (23.8)	32 (76.2)		

DISCUSSION

Prevalence of disclosure of TCM use

In this study, only 23% of the respondents disclosed their use of TCM to a medical doctor or healthcare professional. The prevalence of non-disclosure of TCM use among respondents in this study was very high (as much 73%) in which they claimed they had never disclosed either the use of TCM in their lifetime or recent use within the past 12 months to a medical doctor. Similar findings were noted in a study conducted among primary healthcare attendees in Kuching Division, Sarawak, where 9.6% of the respondents had discussed their use of TCM with a medical doctor (Johny Cheah & Razitasham 2017). The rate of non-disclosure of TCM use is consistent with another study conducted in the North East of England among hospitalised patients by Bello, Winit-Watjana, Baqir and Mcgarry (2012), which noted that 86% of the respondents did not inform healthcare professionals regarding their use of TCM. However, many factors affect the decision to disclose TCM use, such as the belief of TCM to be safe, perception of disclosure as unimportant and lack of inquiry from medical providers (Foley, Steel, Cramer, Wardle & Adams 2019). Some patients are afraid of disclosing the use of TCM as they worried that the trust between doctors and patients would be affected. Besides, most patients fear their doctor's negative emotions, such as anger, and being scolded if they continued asking about TCM (Johny, Cheah & Razitasham 2017). Moreover, WHO (2002) also stated that the lack of knowledge about possible interactions between TCM and chemical drugs can lead to non-disclosure. This reflects that attitude towards TCM use can influence disclosure.

Association between factors related to disclosure of TCM use among respondents.

In this study, the disclosure of TCM use among the respondents was significantly associated with sociodemographic factors such as age and education level. In addition, a few factors were also found to be significantly associated with the disclosure of TCM use to the medical doctor such as perceived barrier of respondents towards TCM, presence and type of chronic diseases among respondents.

This study found that a significantly higher percentage of respondents aged more than 50 years old had disclosed TCM use to the medical doctor. Similarly, another study demonstrated a higher proportion of disclosure of TCM among older adults. This was in line with Sirois, Riess and Upchurch (2017) who proved that older ages tended to disclose their TCM usage compared to the younger age group. However, opposite findings from other studies (Barbara et al., 2012) claimed that younger age in one population had a significantly higher proportion of disclosure of TCM use, and there was an association between the sample's age and their disclosure to TCM use. The average age among the respondents in that study was 45.2 years (SD= 14.92), and the age ranged from 18 to 80 years old, which indicate that the majority of the study participants were from the middle-age category. This association was significant with the mean age of approximately 46 years old, which is almost the same with the previous study in which the mean age of respondents who disclosed TCM use were 51 years old. This occurs due to several factors such as miscommunication among the community and doctors. Many elderly respondents had communication breakdown with doctors as most of them were only capable of speaking in Iban language. Thus, the rate of disclosure of TCM use among the elderly was reduced (Johny, Cheah & Razitasham, 2017).

Based on this study, the significantly higher proportion of disclosure of TCM use was amongst respondents with no formal education (56.3%). This is in contrast to a previous study where a high proportion of disclosure of TCM use was from the highest educational level (Barbara et al., 2012). Saxe et al. (2008) also found that the more the educated participants were significantly more likely to disclose information about their use of TCM. This is because our studies had shown that most of our respondents did not have any educational background and this gave rise to a low level of knowledge regarding the usage of the right TCM and the importance of referring to medical professionals regarding the use of it (Johny, Cheah & Razitasham, 2017). Hence, this decreases the rate of disclosure of TCM use among the respondents. A study by Liu et al. (2009) showed there is an association between educational level and the rate of disclosure of TCM use among HIV-infected women. The studies showed that more of those with tertiary education level (41.41%) disclosed their TCM use to healthcare providers compared to those with primary and secondary education levels.

There is a significant association between the respondent's perceived barrier in which the respondents lack the knowledge to select the right TCM, and the disclosure of TCM use. This also correlates with the previous study which showed a significant association between perceived barrier and disclosure of TCM use. In that study, the patients' hesitancy to disclose TCM usage was due to the fear that the effects of what they consumed could significantly affect their treatment. It is important to know that most TCM was not recommended by certified medical personnel and most TCM users were influenced by false claims in the social media and by recommendations of friends and family members (Johny, Cheah & Razitasham, 2017).

In this study, out of the listed chronic diseases in the table, only heart disease showed a statistically significant association with the disclosure of TCM ($\chi^2 = 11.56$, $p = 0.004$). 100% of the respondents who had heart disease disclosed the usage of TCM to their medical doctor. This could be due to the worrying statistics revealed by The Department of Statistics Malaysia (2019), which showed that ischaemic heart disease was ranked first in the principal five causes of death in 2018. This could have led the medical doctors to establish a better patient-doctor relationship where questions regarding TCM usage were considered. The other factors such as gender, occupation, marital status, monthly income, health insurance and perceived benefits were not significantly associated with the disclosure of TCM use, but a comparison can be made for each factor.

In this study, males (31.8%) had a higher percentage of disclosing TCM use than females (24.4%). This contradicts a cross-sectional study that was carried out among primary healthcare clinics attendees in Kuching Division, Sarawak that showed a significantly higher disclosure proportion of TCM use among females (8.8) than males (4.5%) (Johny, Cheah & Razitasham, 2017). In addition, according to a study that was done by Chao, Wade and Kronenberg (2008) in the continental United States, females were found to be more likely to disclose than males. This was due to them having lower health status, which encouraged them to disclose the use of TCM (Chao, Wade & Kronenberg 2008). Sirois, Riess and Upchurch (2017) also noted a significant association between gender and disclosure of TCM; a higher percentage of women (54.7%) was noted in disclosing their TCM use compared to men. This might be due to women having more awareness and curiosity about TCM and the side effects of TCM on their health. However, there was no significant association between gender and the rate of disclosure of TCM use in this study. Therefore, there is no clear preference regarding gender to influence the disclosure of TCM use to a medical doctor.

This study found no statistically significant association between occupation and disclosure of TCM use. In our study, farmers showed a higher proportion of disclosure of TCM use compared to those working in private or government sectors. This is in line with Johny, Cheah and Razitasham (2017) which noted that unemployed occupants have a higher proportion of disclosure of TCM use, in a cross-sectional study carried out on primary healthcare attendees across randomised selected health clinics within the Division Kuching, Sarawak, Malaysia. Our study show that most of the respondents who disclose TCM use were married while a few of them denied any TCM use. However, there was no significant association between marital status and disclosure of TCM use. This is in contradiction to Ashikaga et al. (2002) who noted higher proportions of disclosure of TCM among the cancer patients amongst those who were married or living with a partner.

Our study shows that those who disclose TCM use had a mean income of RM916.76 per month which indicated that they had a low income per month. This is almost the same as a previous study in which the respondents had the mean income of RM1,096.83 per month (Johny, Cheah & Razitasham 2017). Previous studies from Barbara et al. (2012) found that most of the cancer patients that come from families with higher household income are more likely to disclose TCM use. Similar findings were noted for those who were still receiving chemotherapy and radiation therapy after surgery. However, there was no statistically significant difference between mean monthly income and disclosure of TCM use ($p = 0.467$).

Based on our study, the majority of our respondents (30.8%) did not have any health insurance. A previous study had also demonstrated the same result (Johny, Cheah & Razitasham, 2017). However, no significant association was noted between having health insurance and disclosure of TCM use. This was in line with a study in the United States which found that non-access to health insurance did not influence the rate of disclosure among the users (Chao, Wade, & Kronenberg, 2008). However, Liu et al. (2009) demonstrated a significant association between health insurance and disclosure of TCM ($p < 0.0001$).

Our study had shown that the perceived benefits among the respondents and disclosure of TCM use showed a mean score of 37.09 while a previous study found a mean score of 44.06 (Johny, Cheah & Razitasham 2017). However, no significant association was noted, for this study, between the respondent's perceived benefits and their disclosure towards the usage of it, which is opposite to that found by Sirois et al. (2017) who noted that over three-quarters of TCM users reported that TCM improved their overall health, and over 40% reported specific psychological and physical benefits from TCM including improved sleep, better coping, improved emotional well-being, and stress management. It is assumed that TCM is likely used for health self-management and wellness rather than for strictly therapeutic purposes. When TCM is perceived to be effective, the findings indicate that users are more likely to disclose their TCM use to healthcare providers.

Prevalence of TCM practices among respondents

According to World Health Organization's medicine strategy (2014-2023), there were sizeable differences in the range of TCM treatments used among different countries, for example, Spain with 41%, 70% for Canada and Australia with 82%. Our study, involving 90 respondents, showed 70% of the respondents used TCM treatments which is much higher compared to 29.25% found by the National Health Morbidity Survey. Ganasegeran, Rajendran and Al-Dubai (2014) found that the prevalence of TCM use was 53.1% among 288 occupants across four rural Malay villages within the District of Selama, Perak, Malaysia; still low compared to our study. This was because our research project only involved a small study area with fewer study participants compared to the National Health Morbidity Survey 2015 which covered urban and rural areas and all age groups in Peninsular Malaysia, Sarawak and Sabah.

Type of TCM treatments

Most of the participants received more than a single type of TCM treatment. 58.7% of the participants received 1-2 types of TCM treatments which include most traditional herbs and traditional massage, as these type of TCM treatments have high accessibility and acceptability according to National Health Morbidity Survey (2015). Next, 25.4% of the participants have received three to five types of TCM treatment, and only 12.7% of participants received more than six types of TCM treatment.

In this study, the most widely practised TCM was traditional herbs which is consistent with other studies (Che Noriah & Maryam Farooqui 2014, & Siti et al., 2009). Szabadi (2006) stated that herbal medicine is widely practised because plant extracts are considered more 'natural' as compared to conventional medicine due to presence of compounds with therapeutic effects that are not well-researched. Herbal medicine is also more popular because it is cheap, effective and easily accessible (Ohemu et al., 2017). A study conducted among the Malays in Penang revealed that a total of 112 plant species could be used to cure various illnesses (Nordin & Zakaria, 2016) which supports the fact that traditional herbs are easily accessible.

The next most widely practised type of TCM is the traditional massage in which other studies showed similar results (Chang, Tam & Norazah, 2015). According to the TCM Division (2009), traditional Malay massage can be classified into two categories which are wellness and therapeutic massage. Wellness helps to reduce anxiety, improve sleep, enhance the body's immune system and reduce stress. Meanwhile, therapeutic massage aids in healing an illness and relieving severity of pain. It is for these purposes that makes a traditional massage a common practice among the other types of TCM. Traditional massage therapy is also said to have a low incidence of side effects (TCM Division, 2009), making it a more acceptable choice of TCM.

Traditional postnatal care or confinement beliefs are widely practised. A study conducted among 68 women in Penang reported that all of them practise traditional postpartum care, with reasons given such as self-belief, convenience and family pressure (Munirah et al. 2010). Confinement is said to aid in restoring the balance in the body's elements such as blood or the 'hot' element that is said to become 'cold' after giving birth due to loss of blood (Health Technology Assessment Section, 2015). Traditional postnatal care is also said to restore normal sexual and reproductive function, promote health, restore the mother's energy and decrease one's body weight (Health Technology Assessment Section, 2015). The act of '*bertangas*' or traditional spa is also a common practice of postnatal care among the Ibans which is said to help get rid of build-up toxins in the body during pregnancy and after giving birth (Chang Yi 2014).

20.6% among the study respondents that use TCM reported the use of supplements. A study conducted among 3,000 Malaysians revealed that 28.1% consume vitamin and mineral supplements, while 34% consume food supplements (Nor Azian et al., 2018). Nor Azian et al. (2018) also suggested that supplements was a popular choice due to its easy accessibility and variety, and because of one's own perceived benefits of it.

The practice of *manang* and *sampi* falls under the practice of traditional healers. A study done among 134 psychiatric patients revealed that 69% of them had visited a traditional healer for their condition before seeing a psychiatrist (Salleh & Muhammad Najib, 2000). Another study among breast cancer patients in Malaysia revealed that out of 400 patients, 28.8% had visited a traditional healer (Aina et al., 2018). Nadia (2015) stated that the reasons people seek traditional healers include influence by society's beliefs, influence by the healer himself or being pressured on finding an instant solution. Traditional healing is said to relieve pain and treat cancer in its early stages (Merriam & Mazanah, 2013). Other reasons why patients choose traditional healing is because it treats not only physical illness but also brings emotional comfort, provides spiritual guidance and provides palliative care (Merriam & Mazanah, 2013).

Cupping was practised in 14.3% of our respondents who use TCM. The Institute for Public Health (IPH) (2015) revealed that 6.45% practise Malay cupping while 2.28% practise Chinese cupping. Cupping is said to improve blood flow and promote recovery (IPH, 2015). Only a minority of our respondents practise cupping; this may be because most of them were part of the older generation. Farezza (2017) stated that blood cupping was more prevalent among the younger generations as they were more open-minded and more willing to take risks while older generations tended to be more sceptical towards the effects of blood cupping.

Naturopathy is the least used TCM with a prevalence of 7.9% among our respondents who practised TCM. According to the National Centre for Health Statistics 2007, around 72,900 adults in the United States had visited a naturopathy practitioner in 2006 while in 2012, the number had increased to about 957,000 adults as reported in the NHIS 2012 (Clarke et al., 2015). The NHIS 2007 reported visiting a naturopathy practitioner as one of the costliest TCM practice.

Perceived benefits of respondents toward TCM use

Based on our study, majority of the respondents perceived TCM as a benefit to them. The majority of the respondents agreed that TCM could make the body feel better, improve some of the symptoms, easily control illness and prevent illness complications. TCM was used not only in maintaining health but is also for the treatment of disease and prevention against any illnesses (Hatje, 2016). Wan Farzana Fasya et al. (2017) also reported that Malay massage was used to enhance the blood flow and eliminate solid lumps in blood vessels due to wind via hand manipulation, and also as a relaxation therapy to provide symptomatic relief of painful muscles and fascia, which may then induce local biochemical changes to improve physiologic and clinical outcomes, as well as mobility in postpartum care and post stroke conditions.

Moreover, around 50% of respondents believed that the use of TCM could complement the shortage of Western medicine. According to the Malaysian Medical Council, Ministry of Health, Malaysia (2001), the integration of TCM in the Malaysian healthcare system is to achieve a holistic approach towards enhancing health and the quality of life rather than to cure. For example, postnatal massage is used to relieve muscle cramps and fatigue after labour, traditional Malay massage and acupuncture are used for chronic pain and stroke, or herbal oncology is used to complement allopathic therapy (Abuduli, Ezat & Aljunid, 2011).

The treatment of alternative therapy is more gentle and safer. In Malaysia, about half of the respondents agreed with the use of TCM for minor ailments. The majority agreed with the use of TCM for their health and well-being. The minority (12.3%) chose to use TCM because it is safe (Shazia Qasim Muhammad Umair Khan, Akram Ahmad & Elkami, 2016). All these findings reflect that TCM had more advantages compared to disadvantages as almost half of the respondents agreed with this statement. This correlates to the next finding in which most of the respondents (58.7%) said that they introduce effective TCM treatments to others.

However, 49.2% of the respondents agreed that TCM could strengthen the effect of Western medication. Belief in combined and complementary use of TCM with modern medicine to cure the disease better and faster came from surrounding culture such as family, close friends and also by doctors or pharmacists as the patients' last option (Lee et al., 2004). However, the risk of the interaction between TCM and modern medicine is not well documented (Othman et. al, 2012).

Furthermore, more than 40% of the respondents disagreed that using both treatment methods was better than using one alone. This finding is supported by a study conducted by Sridhar et al. (2017) among the general public of Ras Al-Khaimah, UAE. The study reported that for 27.3% of the respondents, once they started using TCM they eventually stop using conventional medication. While TCM itself could be beneficial with fewer side effects, concurrent usage of both TCM and chemical drugs could bring about serious adverse effects or the reduction in the effect of the chemical drugs (WHO, 2002). Medagama et al. (2014) stated that significant complications can result from the usage of both TCM and conventional medications and conditions can worsen if the medications have a low therapeutic index and are thus less safe. Thus, it is crucial to disclose TCM use to enable the detection and prevention of any potential adverse effects that can result due to usage of TCM alone or in combination with other drugs (Sridhar et al., 2017).

Perceived barriers of respondents toward TCM use

According to this study, more than half of the respondents perceived that they do not have enough knowledge on the selection of the right TCM. Knowledge of the predictors of TCM use may help health care providers to identify patients at increased risk who would be candidates for receiving guidance for safe use of TCM (Aziz & Tey, 2008). Besides, some of the respondents (33.3 %) claimed that they did not use TCM because they were afraid that consuming TCM might interfere with western medication. This is also a reason why the persons are

reluctant to disclose their TCM use. It is important to note that most of the TCM is not prescribed by certified medical personnel. The main source of TCM use is often through the advice and recommendation of friends and family members (Algier, Hanoglu, Ozden, & Kara, 2005). Furthermore, most of the respondents (65%) do not consider TCM usage as expensive. This shows that the expenditure of TCM is not a perceived barrier in its usage. This perception could be an incentive towards using TCM rather than seeking professional medical treatment. In fact, according to Abuduli, Ezat and Aljunid (2011), the cheaper cost of TCM is a factor towards its usage. This can be further observed by the expenditure for Ayurveda that costed 50% less compared to conventional medical treatment (Orme-Johnson & Herron, 1997).

More than 50% of the respondents disagreed that doctors might oppose the use of TCM. In fact, after completing a study, Mwaka, Tusabe, Orach and Vohra (2018) concluded that the integration of TCM principles into medical school curricula is reasonable to have a better understanding of TCM and thus, enabling quality control and patient safety in traditional medicine practices.

More than 70% of the respondents disagreed that TCM may harm the body. TCM is proven to help to manage pain and treating diseases. According to Lao, Bergman, Langenberg, Wong and Berman (1995) TCM in the form of acupuncture can temporarily alleviate postoperative oral surgery pain. Furthermore, acupuncture is used as adjuvant therapy in treating postoperative pain (Wu et al., 2016). Also, TCM is used in the clinical treatment of lumbar intervertebral disc herniation (Zhang, Xu, Wang, Liu, & Sun, 2017).

LIMITATIONS AND RECOMMENDATIONS

The main limitation of the study was that it included a small number of respondents which is homogenous in ethnicity, which may not be an actual representative sample population of Sarawak. The responses related to TCM usage and disclosure to a medical doctor were exclusively based on self-reporting; as such some of the measures of TCM practices and disclosure may have been over or underestimated. In addition, the selection of participants in selected villages via convenience sampling may not be representative of the general Iban population in Sarawak. Furthermore, the cross-sectional nature of data collection, in which the data for independent and dependent variables were simultaneously collected, may allow the identification of associations but causality cannot be inferred.

It is recommended that a further study be conducted involving a larger Sarawakian population, and covering more TCM practices amongst other ethnics, and factors associated to their disclosure. This could provide more significant results and the findings can be more generalised. Next, a qualitative study should be conducted to better understand other factors that predict the disclosure of TCM use not covered in this study.

CONCLUSION

This study investigated the pattern of TCM use and factors influencing the decision among occupants of the longhouse in Julau, Sarikei Division, Sarawak to disclose their TCM use to medical officers. The prevalence of TCM use was as high as 70% among respondents, but the disclosure of TCM use to a medical doctor was only 27%. Variables such as older age, low educational level, presence and type of chronic diseases were found to be significantly associated with the disclosure of TCM use. Thus, healthcare providers can play a critical role to educate the general public in certain issues such as the benefits and implications of TCM, possible after-effects regarding the concurrent usage of both TCM and chemical drugs, the importance of adherence to prescribed medications if they have chronic diseases and the importance of informing about any TCM use to their healthcare providers. Lastly, more studies are needed to investigate the relationship of specific TCM use with certain types of diseases to increase the usefulness and safety of TCM usage.

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