

Chiropractic Utilization Among Patients in Klang Valley, Malaysia



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ABSTRACT

Objective: The purpose of this study was to estimate the utilization of chiropractic in Klang Valley, Malaysia.

Methods: This research was a cross-sectional study conducted in 4 health care centers, namely Klinik Mediviron Sri Rampai, Queck Dental Surgery, International Medical University (IMU) Healthcare Chiropractic Centre, and Be Pharmacy Bandar Sri Permaisuri, in Klang Valley from July to November 2018, with a total of 440 respondents. The data collection was done by the self-administration method using questionnaires that were enclosed in envelopes and passed on to the participants by the center's staff. Descriptive statistics were conducted on the data collected and are presented in tables and figures. The variables were sex, age, nationality, ethnicity, marital status, education level, employment status, and health status with the utilization of chiropractic.

Result: There were 186 (42.3%) male and 254 (57.7%) female respondents. The youngest respondent was 18 years old, and the oldest was 81 years old. The median age was 30 years old. Most respondents (97.3%) were Malaysian from a non-Bumiputra (non-Malay) ethnic group. Almost half (47.5%) of the respondents had a bachelor's degree education level. The utilization of chiropractic was 35.9% (95% confidence interval [CI]: 31.4-40.5).

Conclusion: The utilization of chiropractic was 35.9%, which was slightly lower than utilization among other traditional and complementary medicine practices in Malaysia. (J Chiropr Med 2020;19:159-166)

Key Indexing Terms: *Chiropractic; Malaysia*

INTRODUCTION

Chiropractic is defined as a health profession concerned with the diagnosis, treatment, and prevention of mechanical disorders of the musculoskeletal system, and the effects of these disorders on the function of the nervous system and general health. There is an emphasis on manual treatments including spinal adjustment and other joint and soft-tissue manipulation.¹ Chiropractic is a fast-growing profession and is now practiced worldwide, including in Malaysia. Chiropractic is well regulated by law in over 40 international jurisdictions, such as the United States, United Kingdom, Australia, New Zealand, South Africa, Hong Kong, Philippines, and Thailand. As a health care service,

chiropractic offers a conservative and cost-effective management approach for neuromusculoskeletal disorders.² The World Health Organization (WHO) encourages and supports countries in the proper use of safe and effective medication, products, and practices in national health services. Accordingly, in 2005, WHO developed a guideline on basic training and safety in chiropractic.³

In Malaysia, chiropractic is classified as a form of traditional and complementary medicine (T&CM).⁴ The Malaysian Traditional and Complementary Medicine Division was formed in 2004 by the Malaysian Ministry of Health to regulate the various T&CM professions. On January 11, 2006, traditional and complementary medicine units were created in the selected Malaysian Ministry of Health facilities (eg, government hospitals) to implement the integration of traditional and complementary medicine within the national health care system. The Traditional and Complementary Medicine Act 2016 (Act 775) was passed on March 10, 2016, and came into effect on August 1, 2016.^{5,6} After enforcement of Act 775, the Traditional and Complementary Medicine Council was formed on January 16, 2017, to regulate the practice of T&CM services in Malaysia. With the recommendation from the Traditional and Complementary Medicine Council, the Malaysian Minister of Health recognized chiropractic as a recognized practice area under Act 775 on August 1, 2017.⁷ The recent revision of the Fees (Medical) (Amendment) Order 2017 under the Fee Act 1951 (Act 209) includes chiropractic service in the public hospital fee structure.⁸ This change

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marks significant progress for integration of chiropractic into the Malaysian health care system.

Chiropractic is one of the most commonly used T&CM practices in the United States and Europe.^{9,10} In the United States and Denmark, chiropractic is one of the major stakeholders in health care expenditures.^{2,11,12} The chiropractic utilization rate has doubled in the past 15 years in the United States and Canada.¹³ In the United States, the prevalence of chiropractic usage among people aged 18 years and older was between 5.6% and 8.6%.¹⁴⁻¹⁶ However, Medicare beneficiaries aged 70 years and older have a lower preference for using chiropractic, between 4.1% and 5.4%.^{17,18} The utilization of chiropractic was higher for Medicare beneficiaries with back and neck problems, although the actual percentage is unknown.

In Southeast Asia, there are no published statistics on the utilization of chiropractic. However, there are some statistics on the utilization of T&CM in this region. Traditional medicine is defined by the WHO as “including diverse health practices, approaches, knowledge, and beliefs incorporating plant, animal, and/or mineral based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness.”¹⁹ Complementary and alternative medicine is defined by the WHO as “a broad set of health-care practices that are not part of a country’s own tradition and are not integrated into the dominant health-care system. Other terms sometimes used to describe these health care practices include ‘*natural medicine*’, ‘*nonconventional medicine*,’ and ‘*holistic medicine*’.”¹⁹ Two types of surveys have been done to determine the prevalence of T&CM usage, national population based and local population based. In the national population-based survey, Malaysia has 55.6% followed by Singapore with 42.7% T&CM use as a proportion of all who consulted a health care provider in the reference period.^{20,21} However, the local population-based survey showed 33.9% and 52.1% for use of herbal medicines and T&CM use in Malaysia, respectively.^{22,23} In Singapore, the prevalence of T&CM was 25.3% and 76% for Chinese herbal medicine and T&CM, respectively.^{24,25} Among the latter, 1.7% of the users were in the category of aromatherapy, yoga, or chiropractic. The purpose of this study was to estimate of chiropractic in Klang Valley, Malaysia.²⁵

METHODS

This research was a cross-sectional study. The target population was adults aged 18 years and older residing in Malaysia, regardless of whether the respondents had heard of chiropractic or were engaging chiropractic treatment. The study was conducted until the target respondents were reached to ensure timely data collection from July to October 2018. The International Medical University’s Joint-

Committee on Research and Ethics approved this study. All participants provided consent to participate in this study.

This study was conducted in private health care centers covering 4 health care disciplines including chiropractic, medical, dental, and pharmacy in Klang Valley. Klang Valley is an area in Malaysia that is centered in Kuala Lumpur (capital of Malaysia) and includes its adjoining cities and towns in the state of Selangor. The Klang Valley is geographically delineated by the Titiwangsa Mountains to the north and east and the Strait of Malacca to the west. It extends to Rawang in the northwest, Semenyih in the southeast, and Klang and Port Klang in the southwest. The conurbation is the heartland of Malaysia’s industry and commerce. The participating health care centers were Klinik Mediviron Sri Rampai, Queck Dental Survey, IMU Healthcare Chiropractic Centre, and Be Pharmacy Bandar Sri Permaisuri. Management of the selected health care centers gave their approval and consent to conduct the data collection at their health care center. For convenience sampling, all eligible patients who were visiting the health care centers during the data collection period were selected to participate in the study.

To be accepted for participation in the study, all participants must have fulfilled the inclusion and exclusion criteria. The inclusion criteria were (1) aged 18 years and older; (2) residing in Malaysia; (3) able to understand the objective of the research; and (4) literate in English, Malay, or Chinese language. The exclusion criteria were (1) all chiropractic practitioners in Malaysia, and (2) all chiropractic students in Malaysia.

The sample size was calculated using PS Power and Sample Size Calculation software. The confidence level was set at 95%, sampling frame population at 13000, and prevalence of T&CM usage at 55.6%.²⁶ After adding 20% of non-respondents, the calculated sample size was 440. The 440 respondents were proportionately distributed among the 4 health care disciplines. Each health care discipline covered 110 samples to fulfill the 440 samples required.

The variables of this study were demographic characteristics including sex, age, nationality, ethnicity, marital status, education level, employment status, and health status, along with chiropractic utilization.

Data were collected using a questionnaire. The documents disseminated with the questionnaire were a study information sheet and a written consent form. The study information sheet was used to introduce the purpose of the study to the participant along with the reason they were being selected to participate and present a declaration of no danger and references to obtain further information regarding this study. The written consent form was compulsory for all participants in this study. Upon completing this form, all participants agreed to and accepted the terms and conditions stated in this study. The research questionnaire included the participants’ demographics, including sex, age, nationality, ethnicity, marital status, education level,

employment status, and health status, followed by utilization of chiropractic with 15 questions.

Data collection was done by the self-administration method using a questionnaire that was enclosed in an envelope. The questionnaires were passed on to the participants by the center's staff, including the medical practitioners, pharmacists, dentists, and chiropractors. All the staff who passed out the questionnaires were briefed about the inclusion criteria, exclusion criteria, and questionnaire content. The participants returned the completed questionnaires enclosed in envelopes on the same day. Completed questionnaires were collected from the centers by the investigator at the end of the study period. Data were entered into a spreadsheet and double-checked for accuracy.

Statistical analysis was carried out using SPSS Statistics version 25 (IBM Corporation). Data collected were analyzed using descriptive statistics such as mean, median, and percentages, and are displayed in tables and figures.

RESULTS

The response rate in this study was 100.0%. However, 7.3% of the collected responses were incomplete. A total of 475 questionnaires were distributed among the private health care centers covering 4 health care disciplines including chiropractic (115 copies), medical (120 copies), dental (120 copies), and pharmacy (120 copies) within Klang Valley from July to October 2018. Of 475 responses, 440 questionnaires were completed with 110 questionnaires from each health care discipline, whereas 35 questionnaires were returned with less than 50% of the questionnaire completed.

In **Table 1**, most respondents were female, which was 254 (57.5%). The youngest respondent was 18 years old and the oldest was 81. The median age was 30 years, and the mean age was 33.1 years. Most of the respondents were Malaysian (97.3%). Among the ethnicity of Malaysians, most of the respondents were non-Bumiputra (ie, Chinese, Indian, etc.), which was 269 (61.1%). Most respondents were single, followed by married, with 227 (52.1%) and 188 (43.1%), respectively. Among the 7 levels of education, most of the respondents were bachelor's degree holders, at 209 (47.5%), followed by college/diploma, at 107 (24.3%). Most of the respondents were employed, followed by students, with 283 (64.4%) and 65 (14.8%), respectively. Among the respondents, 177 (40.2%) of them perceived having a good health status.

In this study, the utilization of chiropractic was found to be 35.9% (95% CI: 31.4-40.5). The utilization of chiropractic included respondents who used chiropractic within the last 12 months, respondents who used chiropractic as a patient within the last 5 years, and respondents who used chiropractic as a patient more than 5 years ago.

Table 1. Social Demographic Characteristics of the Respondents (N = 440)

Characteristics		n (%)
Sex	Male	186 (42.3)
	Female	254 (57.7)
Age (n = 421)	35 years and younger	283 (67.2)
	36 to 55 years	114 (27.1)
	56 years and older	24 (5.7)
Nationality	Malaysian	428 (97.3)
	Non-Malaysian	12 (2.7)
Ethnicity	Bumiputra	171 (38.9)
	Non-Bumiputra	269 (61.1)
Marital status (n = 436)	Single	227 (52.1)
	Married	188 (43.1)
	Separated	3 (0.7)
	Divorced	6 (1.4)
	Widowed	12 (2.7)
Highest education level	Primary school	14 (3.2)
	Secondary school	77 (17.5)
	College/diploma	107 (24.3)
	Bachelor's degree	209 (47.5)
	Master's degree	24 (5.4)
	PhD/postdoctoral	6 (1.4)
	Other	3 (0.7)
Employment status (n = 439)	Employed	283 (64.4)
	Self-employed	46 (10.5)
	Unemployed	21 (4.8)
	Retired	17 (3.9)
	Student	65 (14.8)
	Other	7 (1.6)
	Health status	Excellent
	Very good	138 (31.4)
	Good	177 (40.2)
	Fair	53 (12.0)
	Poor	10 (2.3)

Table 2. The Chiropractic Utilization by the Respondents

Type of Chiropractic Utilization	Chiropractic (%)	Dental (%)	Medical (%)	Pharmacy (%)	Total
I have been to a chiropractic practitioner as a patient within the last 12 months.	55 (59.8)	21 (22.8)	8 (8.7)	8 (8.7)	92
I have been to a chiropractic practitioner as a patient within the last five (5) years.	17 (38.6)	9 (20.5)	6 (13.6)	12 (27.3)	44
I have been to a chiropractic practitioner as a patient, but more than five (5) years.	6 (30.0)	3 (15.0)	2 (10.0)	9 (45.0)	20
I have never been to a chiropractic practitioner as a patient.	31 (11.2)	76 (27.3)	92 (33.1)	79 (28.4)	278

Table 3. The Respondents Being Discouraged From Going to a Chiropractic Practitioner

Response	n (%)
Yes	38 (8.7)
No	397 (91.3)

In Table 2, 278 (64.1%) of them had never been to a chiropractic practitioner as a patient. However, among the respondents who had been to a chiropractic practitioner as a patient, chiropractic care was suggested by family members (38.4%), friends (35.8%), medical practitioners (8.8%), physical therapists (5.0%), T&CM practitioners (traditional Chinese medicine practitioner, acupuncturist, etc.) (4.4%), and others (7.5%), which included self-care.

Table 3 shows whether the respondents being discouraged from going to a chiropractic practitioner. Among the respondents who were discouraged from going to a chiropractic practitioner (8.7%), it came from a medical practitioner (33.3%), friend (28.2%), family member (17.9%), physical therapist (7.7%), T&CM practitioner (traditional Chinese medicine practitioner, acupuncturist, etc.) (7.7%), and others (5.1%).

As shown in Figure 1, 153 (35.5%) of them would consult a medical practitioner followed by a chiropractic practitioner, which was 103 (23.9%). However, 47.9% of the respondents would agree to visit a chiropractic practitioner for their neck pain only if other treatments were not effective.

As shown in Figure 2, 157 (35.9%) of them would consult a medical practitioner, followed by a chiropractic practitioner, which was 129 (29.5%). A total of 52.4% of the respondents agreed that they would visit a chiropractic practitioner for their back pain only if other treatments were not effective.

Besides the neutral responses, 83 (19.0%) respondents disagreed that they would only visit a chiropractic practitioner for neck issues, followed by 72 (16%) who agreed that they would only visit a chiropractic practitioner for neck issues. Besides the neutral responses, 90 (20.7%) of the respondents agreed that they would only visit a chiropractic practitioner for back issues, followed by 75 (17.3%) who disagreed that they would only visit a chiropractic practitioner for neck issues.

Among all the respondents, 40.8% (178) of them remained neutral, followed by 24.6% (107) of them that disagreed they would talk to a chiropractic practitioner about general health and wellness issues, such as diet and nutrition. Among all the respondents, 45.6% (198) of them remained neutral, followed by 27.4% (119) of them that disagreed that

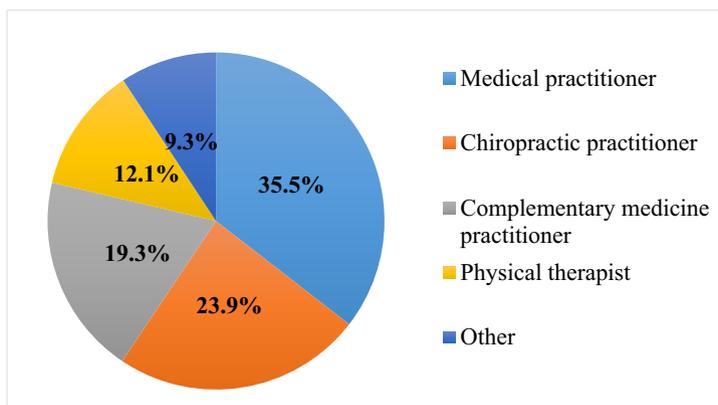


Fig 1. Healthcare practitioner that the respondents will consult for neck pain.

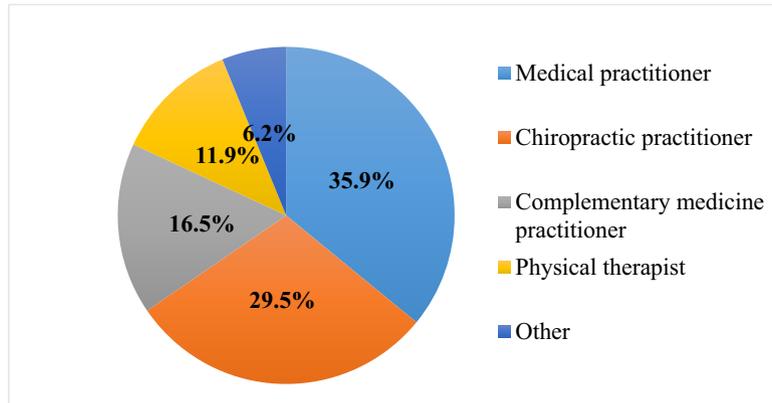


Fig 2. Healthcare practitioner that the respondents will consult for back pain.

a chiropractic practitioner would be the first health care provider they would want to talk to about their health.

Table 4 shows the utilization of chiropractic questions. Most respondents were neutral on the affordability of chiropractic care, at 54.6% (238). However, 25.0% (109) of the respondents agreed or strongly agreed that chiropractic care was affordable. Most respondents (53.0%) were not sure of the need for multiple visits for chiropractic care. However, more than one-quarter (33.2%) of the respondents thought that chiropractic care requires too many visits. Interestingly, among the respondents, 42% would refer family and friends for chiropractic care.

Most respondents were neutral on the number of visits chiropractic care requires, at 53.0% (230). However, 13.8% (60) of the respondents disagreed or strongly disagreed that chiropractic care requires too many visits.

Only a minority of the respondents would not refer family and friends for chiropractic care, 9.9% (43). Besides those who were neutral on this, 44% (191) of the respondents agreed or strongly agreed that they would refer family or friends for chiropractic care.

DISCUSSION

The Malaysian Ministry of Health included fees for chiropractic care in the Fee Act in the public health care system in 2017, which may have had an impact on utilization.⁸ However, chiropractic care is currently only available in the private health care sector, and the utilization is unknown. The position of chiropractic in Malaysia is still unknown as to whether it will be well received by the Malaysian community. Therefore, studying the public utilization of chiropractic care is very important, and it helps in determining the necessity of adding chiropractic care to the public health care system in Malaysia.

In Malaysia, the utilization of T&CM was 55.6% and 52.1% in national population-based and local

population-based surveys, respectively.^{20,22} The utilization of chiropractic in our study was 35.9%. These previous studies reported higher utilization because they covered all the T&CM areas, whereas our study only covered chiropractic.

No publications could be found that had been conducted on the utilization of chiropractic in Malaysia specifically. The reason for this may be that chiropractic practitioners only started to increase in number exponentially with the inception of a local chiropractic program at the IMU in 2010.²⁷ As the supply of chiropractic practitioners increases, there should be an increase in the utilization of chiropractic.

Comparing the findings of this study to the utilization of chiropractic in the United States, it had 5.6% to 8.6% utilization among adults 18 years and older.¹⁴⁻¹⁶ Another descriptive review found that the utilization of chiropractic varies but will generally fall between 6% and 12% of the population.²⁸ Asian populations tend to use more T&CM compared to Western populations.²⁹ Another study also reported that Asian populations have a higher use of acupuncture and oriental medicine than Western populations. However, Western populations tend to use more dietary supplements and home remedies.³⁰ Many societies in Asia have been part of the Chinese culture owing to migration, trade, and occupation, and as such, the healing traditions of most Asian cultures have mixed with their beliefs and religious philosophies, which may account for the higher utilization of T&CM.³¹

In this study, the assumption is that the high utilization found in Klang Valley is due to the population in Klang Valley having better access to chiropractic, as there are more practitioners in this area.³² Seventy-eight percent (78.0%) of registered chiropractic practitioners are currently practicing in Klang Valley.³² This study was conducted in Klang Valley, which may have resulted in higher utilization compared with other studies, which either were

Table 4. *The Component on the Utilization of Chiropractic (N = 436)*

Utilization of Chiropractic		n (%)
Questions	Options	
I only visit a chiropractic practitioner for neck issues.	Strongly agree	22 (5.0)
	Agree	72 (16.5)
	Neutral	213 (48.9)
	Disagree	83 (19.0)
	Strongly disagree	46 (10.6)
I only visit a chiropractic practitioner for back issues (n = 434).	Strongly agree	29 (6.7)
	Agree	90 (20.7)
	Neutral	202 (46.5)
	Disagree	75 (17.3)
	Strongly disagree	38 (8.8)
I would talk to a chiropractic practitioner about general health and wellness issues, such as diet and nutrition.	Strongly agree	24 (5.5)
	Agree	82 (18.8)
	Neutral	178 (40.8)
	Disagree	107 (24.6)
	Strongly disagree	45 (10.3)
A chiropractic practitioner is the first health care provider I want to talk to about my health (n = 434).	Strongly agree	11 (2.5)
	Agree	48 (11.1)
	Neutral	198 (45.6)
	Disagree	119 (27.4)
	Strongly disagree	58 (13.4)
Chiropractic care is affordable.	Strongly agree	14 (3.2)
	Agree	95 (21.8)
	Neutral	238 (54.6)
	Disagree	68 (15.6)
	Strongly disagree	21 (4.8)
Chiropractic care requires too many visits (n = 434).	Strongly agree	27 (6.2)
	Agree	117 (27.0)
	Neutral	230 (53.0)
	Disagree	51 (11.7)
	Strongly disagree	9 (2.1)

(continued)

Table 4. (Continued)

Utilization of Chiropractic		
Questions	Options	n (%)
I would refer family and friends for chiropractic care (n = 434).	Strongly agree	52 (12.0)
	Agree	139 (32.0)
	Neutral	200 (46.1)
	Disagree	29 (6.7)
	Strongly disagree	14 (3.2)

a national population-based survey or local population-based survey in the United States.

Limitations

This study analyzed a population of patients attending 4 health care disciplines, namely chiropractic, medical, dental, and pharmacy, which might not be representative of the general population. Patients were asked to recall the use of chiropractic in the past, therefore, they may have been subject to recall bias.

This study was not conducted on a population-weighted sample, so it is less likely to be representative of the general population. Weighted samples are used to adjust the results of a study to bring them more in line with what is known about a population.

The geographical limitation of this study was owing to limited time and resources. This study was not able to cover all the states in Malaysia but only the Klang Valley area. A future study with a larger sample that covers all the states in Malaysia is indicated to obtain a better representation of chiropractic utilization.

The bias in sampling was minimized by increasing the number of health care disciplines; however, the patients who were attending the 4 health care disciplines, namely chiropractic, medical, dental, and pharmacy, were already a self-selected group attending the health care center for a specific medical reason. Therefore, the usage and awareness of chiropractic might be different from the general population.

CONCLUSION

The utilization of chiropractic was 35.9%, which was slightly lower than the utilization of T&CM in Malaysia. The Malaysian Ministry of Health started to integrate T&CM services in the public hospitals in 2006. Chiropractic care has not yet been included as one of the services in public hospitals. However, it could be the next service to be integrated, which would greatly increase the utilization of chiropractic in Malaysia.

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Critical review (revised manuscript for intellectual content, this does not relate to spelling and grammar checking): W.Y.K., T.K.L., M.T.H.

Practical Applications

- With the recent implementation of the Malaysian Traditional and Complementary Medicine Act 2016 and chiropractic services added into the Malaysian Public Hospital Fee Regulation 2017, understanding the current chiropractic utilization in Malaysia will help policymakers decide whether add chiropractic services into public health care facilities.
- Although a chiropractic service fee has been added into the fee structure, chiropractic services are not provided in public health care facilities.

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