

# Traditional Chinese Medicine Use In Children In Hong Kong: A Pilot Study

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## Citation

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## Abstract

**Background:** Traditional Chinese medicine (TCM) is a popular kind of alternative medicine. Since TCM was implemented in the healthcare system in 1999 in Hong Kong, its use has become increasingly common particularly among adults. Characteristics of TCM use in children have not received much attention. This absence of information limits the knowledge about pediatric TCM usage patterns.

**Objectives:** The current study aimed to examine the use of TCM in children, mainly to ascertain the conditions to seek TCM treatments, the types and reasons of TCM use.

**Methods:** This was a cross-sectional survey using a structured questionnaire to obtain information on TCM usage patterns in children, including conditions, types, effectiveness and reasons of TCM use, from caregivers. Caregivers' attitudes toward TCM were also acquired. A total of 70 caregivers, who with their children attended the Hong Kong Baptist University (HKBU) Chinese Medicine clinics, completed the questionnaires in October-November 2012. Logistic regression analysis was conducted to investigate the association of caregivers' attitude toward TCM and their socio-demographic variables.

**Results:** Behavioral problems were the leading condition that children sought TCM treatments. A high percentage (52.9%) of acupuncture use was detected. Over 50% of the caregivers admitted the concurrent use of both TCM and Western medicine (WM) on their children. TCM was considered as a holistic and natural medical process. Over 90% of the caregivers believed TCM had fewer side effects and less toxic than WM. Education was a predictor of the belief that TCM had few side effects.

**Conclusion:** This is a pilot study to uncover TCM usage patterns in children attending the HKBU Chinese Medicine clinics. It also provided insight into the attitudes of caregivers toward TCM. However, in addition to the small sample, the subjects selected were only those visiting the TCM clinics. Thus the sample might not be representative and results could not be generalized. Hence, future studies should be general population-based.

## INTRODUCTION

Traditional Chinese medicine (TCM) is a popular kind of complementary and alternative medicine (CAM) not only in East Asia but also over the world [1,2]. In Hong Kong, TCM was officially recognized in the healthcare system after the handover in 1997, and regulations on the practice of TCM were then implemented in 1999 [2,3]. Currently, western medicine and TCM co-exist in both public and private sectors of the healthcare system, and consultations of TCM practitioners have increased [2].

In Hong Kong, TCM users are mostly middle-aged females, the chronically ill and those having a higher or lower socioeconomic background than average [4]. Further, many Chinese pharmaceutical, medical and nursing students are

also found to use TCM [5,6,7]. In addition to TCM use by adults, there is a growth of popularity of TCM use for various pediatric diseases.

Despite its increasing popularity, little is known about the characteristics of TCM use in children. In Singapore, children sought treatments for gastrointestinal disorders and respiratory conditions from TCM practitioners and most parents stated the concurrent usage of both TCM and western medicine for their children [8]. In Taiwan, children having high socio-economic status were more likely to use TCM and girls aged 10 to 18 visited TCM practitioners more often [9]. Also, TCM was commonly used by children with cancer in Malaysia [10] and Singapore [11].

In Hong Kong, there is only one study on TCM use in

children with atopic dermatitis. Hon et al.[12]discovered that herbal tea was the most common TCM taken and many parents believed that TCM improved their children's atopic dermatitis. Nevertheless, the possible side effects of TCM were not informed to the parents. There is evidently the lack of information on the TCM use in children in Hong Kong; and this absence limits the knowledge about the patterns and reasons of TCM utilization in children.

The present study is an exploratory investigation that attempts to examine the use of TCM in children, mainly to determine the conditions to seek TCM treatments, the types of TCM used (herb, or/and acupuncture) and reasons of TCM use. Findings of the present study provide imperative information for the allocation of resources to TCM, formulation of comprehensive primary health care policies bringing western medicine and TCM together and optimization of medical management.

### METHODS

The study was an exploratory cross-sectional study using an anonymous structured questionnaire. The target subjects were caregivers of the children attending the Chinese medicine clinics of the Hong Kong Baptist University (HKBU). The questionnaire was translated into Chinese that the subjects felt more comfortable with the language. In the process of conducting the survey, a trained interviewer informed the target subjects about the survey's objective, methods and confidentiality. A total of 103 caregivers were invited to take part in the survey and ultimately 70 (respondent rate = 67.9%) agreed to participate in the study and completed the questionnaires in October-November 2012.

#### Survey instrument

The survey instrument was an anonymous questionnaire that was developed based on the studies by Hon et al. [12] and Loh [8]. The questionnaire consisted of six domains and all questions were close-ended.

The gender and age of the children were acquired in the first part. The second part sought information on the TCM usage patterns. The respondents were asked how often the child used TCM in the past year (for all illnesses or for some selected illnesses) and whether they would use both TCM and Western medicine (WM) at the same time. Conditions that children sought TCM treatments were inquired. Respondents chose the medical problems including asthma, respiratory tract infections, gastrointestinal problems, skin

disorders, general pain management, neurological disorders, and behavioral problems and strengthening of immune system, that TCM was sought. Questions on the types of TCM (herbs/acupuncture) used were also included.

Effectiveness and reasons of TCM use were asked in the following domains. Respondents were requested to state the importance of the reasons of TCM use along a five-point scale, on which 1 indicated most important and 5 indicated less important.

In the fifth part, respondents were requested to respond "yes" or "no" to 4 items on their attitudes toward TCM that included "TCM had fewer side effects than WM", "herbal medicine was milder and less toxic than WM", "TCM could supplement WM" and "TCM could replace WM". The last domain acquired the socioeconomic characteristics including age, education and monthly income of the respondents.

#### Data analysis

Descriptive statistics were employed to describe the TCM use patterns, conditions that TCM was sought, and types, effectiveness and reasons of TCM use. Pearson's Chi Square ( $\chi^2$ ) tests were used to detect the differences among the demographic variables of respondents and their attitudes toward TCM. Where the expected cell frequencies were fewer than required assumptions to satisfy criteria for the use of Pearson's  $\chi^2$ , likelihood ratio  $\chi^2$  tests were employed. Logistic regression was employed to evaluate the relationships of attitudes toward TCM and socioeconomic characteristics of the respondents. All relationships were determined to be statistically significant at 95% confidence levels.

### RESULTS

A total of 70 caregivers were surveyed at the HKBU Chinese Medicine clinics and they had children aged ranging from 2 months to 12 years. The mean age of children was 5.2 years. The majority were boys (75.7%). Children aged 3-9 years formed the majority (85.8%) of the total number of attendants at the clinics (Table 1).

**Table 1**

Demographic characteristics of the children and caregivers (N=70)

	N	Percentage
<b>Children</b>		
<b>Gender</b>		
Male	53	75.7
Female	17	24.3
<b>Age (years)</b>		
Below 2	5	7.1
2-5	36	51.5
6-9	24	34.3
Above 10	5	7.1
<b>Caregivers</b>		
<b>Age (years)</b>		
Below 30	2	2.9
31-40	41	58.6
41-50	24	34.3
Above 51	3	4.2
<b>Education</b>		
Secondary	21	30.0
Tertiary or above	49	70.0
<b>Monthly income (HK\$)</b>		
Below 10,000	4	5.7
10,001-20,000	11	15.7
20,001-30,000	29	41.4
30,001-40,000	8	11.4
Above 40,001	18	25.7

For the caregivers, 68 (97.1%) were parents and two were grandparents. Over half (58.6%) of them were aged 31-40 years. The majority (70.0%) had attained tertiary education. Over 40% and 37.1% of them had monthly income HK\$20,001-30,000 and above HK\$30,001 respectively (Table 1).

**Patterns of TCM use**

About one third of the children (34.3%) used TCM for all illnesses and 54.3% concurrently used both TCM and WM. The most common conditions that children sought TCM treatments were behavioral problems (29.3%), respiratory tract infections (19.8%), followed by skin disorders (13.8%) and strengthening of the immune system (13.8%) (Table 2).

**Table 2**

Diseases that children sought TCM treatment (N=116)

	N	Percentage
Behavioral problems	34	29.3
Respiratory tract infections	23	19.8
Skin disorders	16	13.8
Strengthening immune system	16	13.8
Gastrointestinal problems	12	10.4
Asthma	7	6.0
General pain management	5	4.3
Neurological disorders	3	2.6

It was discovered that children used acupuncture (52.9%) more than herbs (40.0%). Four children (5.7%) used both herbs and acupuncture while one child (1.4%) used Tuina. For perceived effectiveness, majority of the caregivers noticed some improvement (55.7%) or much improvement (41.4%), while only 2.9% felt no change in their children's conditions. However, merely 14.3% of the caregivers had been informed of the side effects of TCM.

**Reasons of TCM use**

Caregivers were asked to rate the importance of eight reasons why they used TCM. TCM being considered as a natural therapy was the prime reason, followed by advice from family/friends and the belief of too much side effect from WM (Table 3). Being recommended by WM doctors and covered by insurance were not important reasons for TCM usage.

**Table 3**

Reasons of TCM use in children

	Percentage*
Want to have a natural therapy	85.7
Advised by family/friends	61.5
WM provided side effects	61.4
Taking too much conventional medicine	52.9
TCM was effective	51.4
WM did not help	24.3
Recommended by conventional doctor	20.0
Covered by insurance	20.0

\* Percentage of caregivers who considered the reason was important and the most important

**Attitudes toward TCM**

Almost all the caregivers believed that TCM had fewer side effects (94.3%) and less toxic (91.4%) than WM. Over half of them (57.1%) perceived TCM could supplement WM and 42.9% conceived TCM could replace WM. Results of c<sup>2</sup> tests revealed that respondents

**DISCUSSION**

TCM is a form of CAM and the choice of alternative

treatment is mostly based on the type of illness that an individual suffers [13]. In the present study, behavioral problems were found being the leading condition that children sought TCM treatment. This finding was different from some previous studies that gastrointestinal and respiratory tract problems were related to higher TCM use [8,14]. Acupuncture is noted to be an alternative treatment that improves symptoms and outcomes of autism spectrum disorders (ASD) and attention deficit hyperactivity disorder (ADHD) in children [15,16,17,18]. Acupuncture was reported to significantly lower the activity in the dorsomedial prefrontal cortex that was related to different diseases with socio-emotional disorders [19].

Seeking TCM treatment for behavioral problems by large number of children also reflected in the high acupuncture use (52.9%) in the current study. This astonishing high percentage of acupuncture use might plausibly be an over-representation of the children surveyed who sought TCM treatments for behavioral problems. Autism Treatment Zone was set up in the HKBU Chinese Medicine clinics to provide treatment for children suffering from ASD. Caregivers were probably appealed to this establishment of special treatment area and thus many children suffering from ASD attended the HKBU Chinese medicine clinics.

Over half (54.3%) of the caregivers admitted using TCM and WM concurrently on their children. Although this percentage was lower than that (80.3%) in Singapore [8], the finding indicated that caregivers conceived few side effects of TCM. Additionally, the startling low percentage (14.3%) of the caregivers being told of the side effects of TCM might also induce this belief. These findings raised the concern of interactions between TCM and WM as significant health effects might occur, such as hepatotoxicity [20,21].

TCM was perceived as a holistic medical practice that treated the whole person instead of the disease alone, and could cure the roots of the health problems [22]. Herbs, acupuncture and tuina were considered as 'natural' remedies that helped restoring the body's balance. Further, herbs were considered to be safe [23]. This perception and belief that TCM was a natural holistic medical alternative was the leading reason of TCM use in the present study.

Attitudes toward TCM of caregivers of the present study corresponded to some previous studies. About 90% of caregivers of this study and in Singapore [8] perceived that TCM had fewer side effects compared to WM. A study by Lam [22] also noticed the same attitude of the Hong Kong

Chinese. Although TCM was believed having fewer side effects and being safer, many caregivers considered TCM could only supplement WM. This attitude was supported by fact the TCM was thought as an alternative and used when WM failed [22].

Many studies discovered that higher socioeconomic status including income and education was related to higher prevalence of TCM use [4,9,24,25]. However, there was a lack of information on the factors affecting caregivers' attitude toward TCM. It was found that only education was significantly associated with caregivers' belief of fewer side effects of TCM in this study. Caregivers are parents or guardians who determine the types of medical treatments for their children. Thus, understanding the factors affecting their attitudes toward TCM is crucial in order to obtain apprehension of TCM usage pattern in children.

The current study has several limitations. This is a cross-sectional study and causal relationship between the dependent and independent variables cannot be established. Another limitation is selection bias. The subjects were caregivers with their children attending the HKBU Chinese medicine clinics, and they were more likely to accept the utilization of TCM. This would further lead to response bias. In addition to the selection and response bias, the small sample (70 respondents) may not be representative; and the results may not be generalized to all caregivers in Hong Kong. Future general population-based research is needed to better understand pediatric TCM usage patterns and caregivers

### **CONCLUSION**

This is a pilot study that explores the reasons of TCM use and its usage patterns in children in Hong Kong. Majority of caregivers surveyed believed that TCM had fewer side effects than WM and was a more 'natural' alternative. They also used both TCM and WM concurrently on their children and thus it led to the concern of drug-TCM interactions. Contrast to some previous literature, behavioral problems was the major condition that children sought TCM treatment and there was a high percentage of acupuncture use. These findings may attribute to the small sample and limitations of the current study. TCM use in children is influenced by their caregivers' belief and attitudes toward TCM since they are guardians and decision makers of medical treatments sought. Therefore, future large population-based surveys will be required to examine caregivers' attitudes toward TCM, and thus insights into the pediatric TCM use characteristics can

be obtained.

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