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# Comparison of the knowledge, attitudes and practice with antibiotic use between traditional Chinese medicine and western medicine usual attenders in Hong Kong



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## KEYWORDS

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KAP

## Abstract

**Background:** Patients who usually attend Traditional Chinese Medicine (TCM) need to go to western medicine (WM) doctors for antibiotics in Hong Kong. They might have different knowledge, attitude and practice (KAP) with antibiotics from the WM-attenders.

**Objective:** This study compares TCM attenders with the WM-attenders in Hong Kong about their KAP with antibiotics. The comparison could help future campaigns/education on appropriate antibiotic use.

**Design and setting:** A questionnaire on KAP with antibiotics was designed after eight focus groups of purposively selected participants. A territory-wide telephone survey then interviewed randomly selected residents who were aged 18 years or above and spoke the local dialect.

**Result:** Of 2471 respondents, 270 and 2092 usually attended TCM and WM, respectively. Majority of both the TCM- and WM-attenders preferred doctors who were judicious in prescribing antibiotics and seldom asked for them. The TCM-attenders were significantly more likely to be female and with lower household income. They were also more likely to agree that antibiotics were not useful for upper respiratory tract infections and that antibiotic resistance was a serious local problem. They were less likely to accept or be treated with antibiotics. The TCM-attenders were also more concerned about the side-effects of antibiotics. However, they were also less likely than the WM-attenders to always finish a full course of antibiotic.

**Conclusion:** Apart from non-compliance, the TCM-attenders' KAP with antibiotics favour the appropriate use of antibiotics.

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## Introduction

Misuse of antibiotics is widespread in the community;<sup>1</sup> alternative medicine was suggested as a mean of reducing antibiotic use and hence resistance.<sup>2,3</sup> Harbarth

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et al. attributed the much lower prevalence of penicillin-resistant pneumococci in Germany (than in France) to her much higher prevalence of using alternative medicine.<sup>4</sup> However a study of children in UK showed that the use of homeopathic products was not associated with decreased antibiotic consumption.<sup>5</sup> There are too few studies on the use of antibiotics by people opting for alternative medicine to examine if alternative medicine could diminish antibiotic resistance.

A systematic review shows that the prevalence of the use of alternative medicine ranges from 9% to 65% in different parts of the world.<sup>6</sup> People choose alternative medicine based on the perceived nature of their illness or their expectations from the alternative therapies.<sup>7,8</sup> One of their common concerns is the potency and associated side-effects of western drugs.<sup>8–11</sup> Antibiotics are among them.<sup>12</sup> While their attitudes about antibiotics are known, their knowledge and use of antibiotics are largely understudied.

This study aims to compare the knowledge, attitude, and practice (KAP) with antibiotics between people using alternative medicine and people using the western-medicine (WM). In Hong Kong, traditional Chinese medicine (TCM) is part of the healthcare system with a similar statutory status as WM and is by far the most major alternative medicine used. The Government's Thematic Household Survey in 2010 showed that 13.2% of the residents who had sought medical care in the previous 30 days attended TCM.<sup>13</sup> As TCM practitioners do not have the legal right to prescribe antibiotics, patients who need antibiotics must attend WM. The use of antibiotics can thus be compared between the public who usually attend TCM and those usually attend WM (defined in this study as TCM-attenders and WM-attenders).

We hypothesized that there were significant differences in KAP between these two groups. The results would reveal whether TCM was a significant factor for reducing antibiotic use. Besides, the knowledge and other behaviour (e.g. finishing a full course of antibiotics or not) of the TCM-attenders could be better understood. The findings will be useful for the individual patient education and public campaigns for the appropriate use of antibiotics in the community.

## Methods

This is part of a larger study on the general public's KAP with antibiotics. The findings of other study themes have been reported elsewhere.<sup>12,14</sup> Fifty-six residents aged 20–73 years from different socio-economic strata were purposively recruited via local community centres for a qualitative study. Eight focus groups were held with an interview guide to discuss their KAP with antibiotics. Based on the findings from the focus-groups, a questionnaire was designed for a territory-wide telephone survey. The content-validity of the questionnaire was tested with academic tutors in family medicine. It was then pilot-tested with 50 randomly selected household telephone holders. (The data from the pilot-test were discarded in the final analysis.) The responses to the items in the questionnaire were mainly in the form of yes (agree), no (disagree), uncertain or refused to answer. In the questionnaire, the respondents were asked "Do you usually see western doctor or traditional Chinese Medicine practitioner?" The given choices included western doctor

(WM-attenders), traditional Chinese medicine practitioner (TCM-attenders), unsure (either or both), and refusal to respond. We used the term "common cold" in the questionnaire as the equivalent of URTI for the general public. We defined the TCM-attenders as the respondents who chose TCM practitioners as their usual doctors.

The telephone survey was conducted by the Social Sciences Research Centre of The University of Hong Kong (an academic centre specialized in telephone surveys) between November and December 2010. The interviewers were experienced in similar surveys and were standardized with the questionnaire before the data collection. The target population was adults aged 18 years or above speaking the local dialect, Cantonese. Telephone calls were made in the evening to households randomly selected from the latest directory with computer software. In a successful call, the household member aged 18 years or above with the nearest birthday was invited to take part in the survey. Persons with communication difficulties were excluded. A maximum of five attempts were made for unanswered lines. The relevant questions on KAP with antibiotics for this study were listed in Appendix.

We grouped the respondents into (a) age-groups: young adults (<40), older adults (40–64), and elderly (>64), (b) income-groups (household income per month): low (<HK\$ 10,000; HK\$ 7.8=US\$ 1.0 pegged exchange rate), middle (HK\$ 10,000–24,999), and high (HK\$ 25,000 or above), and (c) education-groups: primary or below, secondary, and tertiary. We used Pearson Chi-squared test and a logistic regression analysis to compare the demographic characteristics between the TCM- and WM-attenders. Student's *t*-test was used to compare the continuous responses between the two groups. To appropriately adjust for the possible confounding effects of some demographic characteristics of the respondents, Wald's tests based on the logistic regression (for binary responses) and multinomial logistic regression (for responses with more than 2 levels) analyses were carried out to test for the effects of TCM on the responses. A  $p < 0.05$  was taken as statistically significant.

Ethics approval was obtained from the local Institutional Review Board (UW 07-359).

## Result

### Recruits

Of 3996 successful calls to households, 813 refused, 336 did not complete the interviews, and 376 were excluded due to language problems ( $n = 157$ ) or under age ( $n = 219$ ). Of the 2471 who completed the interviews (response rate 68.3%), 270 (10.9%) usually attended TCM practitioners and 2092 (84.7%) the western doctors and the other 109 (4.4%) were uncertain (no particular preference).

The TCM-attenders were more likely to be female and from the lower income-group (Table 1). These two characteristics remained independently significant in the logistic regression analysis with age, sex, education level, income, birthplace and with or without a regular doctor as the explanatory variables in the model ( $p = 0.017$  for sex, and  $p = 0.006$  for income). In the following regression analyses, we included the factors sex and income as

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