

## Use of Traditional Medicine in an Acute Upper Respiratory Tract Infection in Singapore

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### Introduction

Although upper respiratory tract infections (URTIs) are commonly seen in Singapore, the treatment strategies are very varied. They range from antihistamine,<sup>1</sup> antitussives,<sup>2</sup> and antibiotics;<sup>3</sup> to non-pharmacological methods such as inhalation of steam.<sup>4</sup> However, there is very little research on the use of traditional medicine in URTI. This study aims to determine the profile of the adult URTI patients in Singapore who use the traditional medicine while they consult Western trained doctors.

### Materials and Methods

821 consecutive patients who attended a group of 9 polyclinics in National Healthcare Group, Singapore for acute URTI in March 2002, and fulfilled the criteria, were interviewed. 595 responded, giving the rate of 72.4%. A detailed questionnaire was used, exploring their social status, URTI symptoms and use of traditional medicine in the past, and the current types used by them.

### Results

There were 190 patients who used traditional medicine (32.0%). Other subjects were taking vitamin C, cold preparations, cough mixtures and antipyretics. Only 27 subjects (4.5%) did not take any medications or supplements at all. The common traditional medicine used were “cooling tea” (104, 17.5% of total), “pipakao” (48, 8.1%), “luohan” or Arhan fruit (24, 4%), and chrysanthemum tea (20, 3.4%); all of them were of the Chinese origin. There was no significant difference in the profile of these patients in terms of gender and educational level. There were more adults above 40 years old who used these medications. Almost half of the Chinese patients used these traditional Chinese medicine (TCM) compared to the other ethnic groups (Chinese 41.8%, Malay 8.7%, Indians 10.8%, Others 23.1%;  $p < 0.001$ ). We found that 120 patients (63.2%) were using the traditional medicine alone for about 3 days before they went to see the polyclinic doctors ( $p = 0.002$ ). 52 of them (28.5%) used 2 or 3 traditional medicine before the polyclinic visit. Among the symptoms reported by the patients on traditional medicine, majority of them were related to throat discomfort (about 70%), cough (about 89%) and nose symptoms (about 60%). 40% of them felt feverish. Noticeably in the clinical examination, majority of these patients have temperatures less than 37°C (58.4%), and 36.3% had temperature between 37°C and 38°C.

### Discussion

From this study, we noted that 32% of the subjects used traditional medicine. They could have used other medications as well, such as over-the-counter Western medicine and prescribed medicine from past doctor consultations. Only 27 participants (4.5%) did not try anything before going to see the polyclinic doctors. We could see that the traditional medicine used by the subjects were common items readily available in the local market, such as cooling tea, “pipakao” and Arhan Fruit. Most people would not resort to use expensive herbs for relieving common cold symptoms.

We have found that 35.6% of those who used traditional medicine this time used it previously, this was found to be significant. It is very likely that people tend to rely on their own experience to treat URTI on their own. We found that 120 patients (63.2%) were using the traditional medicine alone for about 3 days before they went to see the polyclinic doctors, and about one quarter tried more than one traditional medicine. It showed that a majority of the subjects would want to try their own methods of relieving their URTI symptoms before consulting a Western-trained doctor. This is particularly important in Singapore, which was affected by the Severe Acute

TABLE I: DEMOGRAPHICS AND CHARACTERISTICS OF SUBJECT PATIENTS WHO ATTENDED THE NHGP POLYCLINICS FOR URTI SYMPTOMS

| Demographic              | Variable                         | No. | %    |
|--------------------------|----------------------------------|-----|------|
| Age (y)                  | 21-40                            | 232 | 39.8 |
|                          | 41-60                            | 246 | 42.1 |
|                          | >60                              | 106 | 18.1 |
| Ethnicity                | Chinese                          | 410 | 69.0 |
|                          | Malay                            | 104 | 17.5 |
|                          | Indian                           | 67  | 11.3 |
|                          | Others                           | 13  | 2.2  |
| Gender                   | Male                             | 318 | 53.5 |
|                          | Female                           | 276 | 46.5 |
| Education group          | Primary school and below         | 294 | 49.6 |
|                          | Secondary school and vocational  | 189 | 31.9 |
|                          | Preuniversity and tertiary       | 110 | 18.5 |
| Payment of medical bills | Self                             | 281 | 47.2 |
|                          | Not-self                         | 312 | 53.0 |
| Smoking status           | Non-smoker                       | 470 | 79.3 |
|                          | Current smoker                   | 123 | 20.7 |
| Regular doctor           | Polyclinic                       | 366 | 61.6 |
|                          | Others (GP, private specialists) | 228 | 38.4 |

TABLE II: CURRENT METHODS USED IN THE MANAGEMENT OF URTI

| Description               | No. used | % of total |
|---------------------------|----------|------------|
| Traditional medicine      | 190      | 32.0       |
| Cooling tea               | 104      | 17.5       |
| Pipakao                   | 48       | 8.1        |
| Rhinoceros horn           | 7        | 1.2        |
| Ginseng root              | 14       | 2.4        |
| Ling yang (antelope horn) | 12       | 2.0        |
| Luo han guo (arhan fruit) | 24       | 4.0        |
| Chap tiga kaki            | 2        | 0.3        |
| Chrysanthemum tea         | 20       | 3.4        |
| Others                    | 13       | 2.2        |
| Over-the-counter medicine | 295      | 49.7       |
| Vitamin C                 | 34       | 5.7        |
| Zinc supplements          | 2        | 0.3        |
| Cold preparation          | 52       | 8.8        |
| Multi-vitamins            | 11       | 1.9        |
| Cough mixture             | 78       | 13.1       |
| Pain killers/antipyretics | 218      | 36.7       |
| Nil                       | 27       | 4.5        |

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TABLE III: CHARACTERISTICS OF PATIENTS ON TRADITIONAL MEDICINE

| Description                     | Number on traditional medicine | % in traditional medicine usage | % in individual group |
|---------------------------------|--------------------------------|---------------------------------|-----------------------|
| Gender                          |                                |                                 |                       |
| Male                            | 94                             | 49.5                            | 29.7 of males         |
| Female                          | 96                             | 50.5                            | 35.3                  |
| Age                             |                                |                                 |                       |
| 21-30 years                     | 27                             | 14.6                            | 24.5                  |
| 31-40                           | 32                             | 17.3                            | 26.7                  |
| 41-50                           | 56                             | 30.3                            | 35.9                  |
| 51-60                           | 34                             | 18.4                            | 38.6                  |
| >60                             | 36                             | 19.5                            | 34.3                  |
| Race                            |                                |                                 |                       |
| Chinese                         | 170                            | 89.5                            | 41.8                  |
| Malay                           | 9                              | 4.8                             | 8.7                   |
| Indian                          | 7                              | 3.7                             | 10.8                  |
| Others                          | 3                              | 1.6                             | 23.1                  |
| Education                       |                                |                                 |                       |
| Primary School and below        | 94                             | 49.5                            | 32.4                  |
| Secondary School and vocational | 64                             | 33.7                            | 33.9                  |
| Pre-University and tertiary     | 32                             | 16.8                            | 29.4                  |

TABLE IV: DURATION OF TRADITIONAL MEDICINE USAGE, AND REASONS TO SEE POLYCLINIC DOCTORS

| Question                                                                      | Traditional medicine No. (% of trad med usage) |                                     |
|-------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------|
| No of traditional medicine used by patients before seeing polyclinic doctors. | 1<br>2<br>3                                    | 130 (71.4)<br>41 (22.5)<br>11 (6.0) |
| How many sick days before going to polyclinic?                                | 0-3 days<br>4-7 days<br>>7 days                | 120 (63.2)<br>69 (36.3)<br>0        |
| How many times patient sought treatment before polyclinic?                    | 0 time<br>1 time<br>2 times                    | 182 (95.8)<br>7 (3.7)<br>1 (0.5)    |
| How many Western doctors seen before polyclinic visit?                        | 1 time<br>2 times                              | 3 (1.6)<br>1 (0.5)                  |
| How many traditional healers before polyclinic visit?                         | 1 time<br>2 times                              | 4 (2.1)<br>0                        |
| Reasons to see polyclinic doctors                                             |                                                |                                     |
| Symptoms more severe                                                          |                                                | 63 (33.2)                           |
| Need medication for symptoms                                                  |                                                | 52 (27.4)                           |
| Symptoms last longer                                                          |                                                | 17 (8.9)                            |
| Need antibiotics                                                              |                                                | 0                                   |
| Needed medical leave                                                          |                                                | 15 (7.9)                            |
| Needed to get well faster                                                     |                                                | 32 (16.8)                           |
| No improvement of symptoms                                                    |                                                | 10 (5.3)                            |

Respiratory Syndrome (SARS) in March 2003. We found that the patients might be seeking treatment from traditional sources, such as medicinal shops or traditional massagers, before seeing a Western-trained doctor or a qualified TCM physician who is trained to identify SARS symptoms and signs. By then, the patient might have unknowingly infected other people.

There were almost an equal number of male and female participants who used traditional medicine in this study. As suspected, the middle-aged to elderly groups were the ones using this method. It was not surprising that Chinese patients tend to use traditional medicine. We were unable to determine what traditional medicines were the other races using as the numbers were small. There was no significant difference in the profile of the patients in terms of educational levels as well.

Generally, there was no significant symptom that made the patients seek relief with traditional medicine, though the majority had nose symptoms, cough and phlegm. About 40% of them had fever; this suggested that patients might have taken fever seriously and would seek medical attention earlier than other nose and throat symptoms. This was shown in the clinical examination that there were very few patients with temperatures more than 38°C (7 subjects, 3.7%).

TABLE V: SYMPTOMS ASSOCIATED IN SUBJECTS

| Symptom                           | Traditional Medicine (% of trad med usage) |
|-----------------------------------|--------------------------------------------|
| Cough                             | 170 (89.5)                                 |
| Blocked nose                      | 114 (60.6)                                 |
| Runny nose                        | 116 (61.4)                                 |
| Itch at the back of nose & throat | 134 (70.5)                                 |
| Sneezing                          | 114 (60.0)                                 |
| Phlegm in throat                  | 140 (73.7)                                 |
| Throat clearing                   | 132 (69.5)                                 |
| Sore throat                       | 142 (74.7)                                 |
| Dry mouth                         | 151 (79.9)                                 |
| Hoarse voice                      | 137 (72.1)                                 |
|                                   | p=0.001                                    |
| Fever                             | 76 (40.0)                                  |
| Drowsiness                        | 92 (48.7)                                  |
| Dizziness                         | 65 (34.4)                                  |
| Body aches                        | 107 (56.3)                                 |
| Weakness                          | 126 (66.3)                                 |
| Shortness of breath               | 70 (37.0)                                  |
| Abdominal pain                    | 27 (14.2)                                  |
| Nausea                            | 33 (17.4)                                  |
| Diarrhoea                         | 27 (14.2)                                  |
| Current Smoking                   | 27 (14.2)                                  |

There is no significant association between the symptoms and taking traditional medicine, except for hoarse voice (p=0.001, Chi-Square, OR=1.85, 95% CI 1.27 to 2.69)

TABLE VI: SIGNS ASSOCIATED IN THE SUBJECTS

| Clinical examination         | Traditional medicine No. (% of total) |
|------------------------------|---------------------------------------|
| Body temperature (degree C)  |                                       |
| <37.0                        | 111 (58.4)                            |
| 37.0-38.0                    | 69 (36.3)                             |
| >38.0                        | 7 (3.7)                               |
| Nasal discharge              | 102 (53.7)                            |
| Throat injection             | 131 (68.9)                            |
| Tonsils enlarged/exudates 10 | 10 (5.3)                              |

## Conclusion

This study is significant in identifying the pattern of user of traditional medicine in the self-treatment of URTI. The user is likely to be a middle-aged male or female; usually a Chinese who uses TCM. He or she may have varying educational level, but will rely on his or her past experience to try these medications for a few days (<7 days) before seeing a Western-trained doctor. But when the person has fever, he or she is more likely to see a doctor earlier.

This information is useful for the primary care physician in that there are known reports of drug interactions and side effects with the use of the TCM.<sup>5</sup> It is difficult to identify all the components of these medications, as there are the concoctions of various herbs and fruits brewed together. The doctor will need to find out from his local patients routinely, what other medication he or she is on, so as to identify any possible allergies with the TCM.

When the patient turns up at the clinic for URTI symptoms, he is likely to have taken some traditional medicine. Therefore, if the symptoms persist, he would expect the doctor to act on it more thoroughly such as the need for blood test (full blood count) or for prescription of antibiotics. The primary care physician would need to assess each case individually to determine the need for more laboratory investigations and discuss with the patient on the usage antibiotics in URTI.

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