

Prescriptions of Chinese medicinal herbs in Switzerland: the example of suan zao ren (Ziziphi Spinosae Semen, 酸枣仁)

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Introduction

According to the Swiss Health Survey 2007, 1.7% of the adult population used traditional Chinese medicine within a period of 12 months (including Chinese herbal medicine, but excluding acupuncture) [1]. In contrast to conventional drugs, that contain single chemically defined substances, prescriptions of Chinese herbs are mixtures of up to 40 ingredients (parts of plants, fungi, animal substances and minerals). Originally they were taken in the form of decoctions, but nowadays granules are more popular. Medium daily dosages of granules range between 8 to 12g.

In a recent work we identified the most commonly used Chinese herbs (all ingredients are referred to as herbs for reasons of simplicity) and classical formulas (mixtures) [2]. Here we present a short overview and the example of suan zao ren (Ziziphi Spinosae Semen; figure 1), which is used in the treatment of insomnia and anxiety and contains saponins that have been shown to increase sleep in animal studies [3].

Material and Methods

A random sample of 998 orders including 1,053 prescriptions dating between July 2008 and June 2009 was drawn from about 50,000 orders in the database of Lian Chinaherb AG, Wollerau, one of the largest pharmacies of Chinese herbs in Switzerland.

Data were analysed according to the most frequently used individual herbs and classical formulas. Cluster analysis (Jaccard similarity coefficient, complete linkage method) was applied to identify common combinations of herbs.

Results

- The most frequently used herbs were dang gui (*Angelicae Sinensis Radix*), fu ling (*Poria*), bai shao (*Paeoniae Radix Alba*), and gan cao (*Glycyrrhizae Radix et Rhizoma*); the most frequently used classical formulas were gui pi tang (Restore the Spleen Decoction) and xiao yao san (Rambling Powder).
- The average number of herbs per prescription was 12.0, and the average daily dosage of granules was 8.7g (table 1).
- 74.3% of the prescriptions were for female, 24.8% for male patients (for the remaining 0.9% the gender was unknown).
- Suan zao ren was present in 14.2% of all prescriptions. These prescriptions contained on average 13.7 herbs, and the daily dosage of granules was 8.9g (table 1).
- Suan zao ren was more frequently prescribed by practitioners of non-Asian than of Asian origin but equally often for female and male patients.
- Cluster analysis (figure 2) grouped suan zao ren with yuan zhi (*Polygalae Radix*), bai zi ren (*Platycladi Semen*), sheng di huang (*Rehmanniae Radix*) and dan shen (*Salviae Miltiorrhizae Radix et Rhizoma*).

Discussion

Prescriptions including suan zao ren contained on average slightly more herbs than other prescriptions. This might be due to the fact that two of the three most popular classical formulas with suan zao ren are composed of 13 and 12 herbs with the possibility of adding more ingredients when necessary. Cluster analysis resulted in the clustering of suan zao ren with other herbs of the classical formula tian wang bu xin dan (Emperor of Heaven's Special Pill to Tonify the Heart), indicating the use of suan zao ren for the treatment of insomnia and irritability. Unfortunately, the diagnoses of the patients were unavailable and thus correlations between use of suan zao ren and diseases could not be analysed.



Figure 1.

- a) Ziziphi Spinosae Semen (picture: Lian Chinaherb AG).
b) Ziziphus spinosa (picture: <http://www.erbeofficinali.org>, <http://www.mdidea.com>).
c) Structure of jujuboside A, one of the saponins present in suan zao ren (structure: <http://www.chemblink.com>).

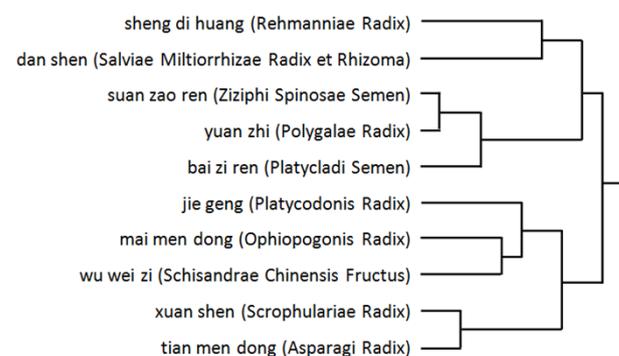


Figure 2. Partial result of the cluster analysis.

	prescriptions with suan zao ren	prescriptions without suan zao ren	all prescriptions
number of herbs per prescription	13.7*	11.8	12.0
daily dosage (g of granules)	8.9	8.6	8.7
% female patients	75.8	74.0	74.3
% Asian practitioners	36.9*	49.1	47.4

Table 1. Characteristics of prescriptions with and without suan zao ren (* statistically significant difference, $p \leq 0.01$).

References

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