PROJECT REPORT

Project Topic:

A Database on Traditional Chinese Medicine Treatment for Drug Addiction

Background and Significance:

Chinese Herbal Therapy (CHT) has been used in the treatment of drug addiction for more than 160 years, and accumulated many clinical experiences in this field. Thus the search for the effective and safe therapy and herbal medicine from CHT has a potential practical value. In the past 15 years, an increasing number of research papers on this topic had been published, but they were scattered in various publications and media in different forms. This obscured the search for related study findings by computer databases and other ways. In addition, there is a language barrier for the foreigners who would like to read the papers as the majority (>90%) of them were published in Chinese journals without complete translation. In the Three-year Plan on Drug Treatment and Rehabilitation Services in Hong Kong (2000-2002) promulgated by The Narcotic Division of the Hong Kong Government, CHT was recommended as a potential approach for drug detoxification and rehabilitation. The establishment of a database on CHT for drug addiction will provide an essential support for all professionals including scientific researchers, medical professionals, social workers and policy planners.

Aim:

1) To establish a computerized, bilingual (Chinese – English) database for CHT in treatment of drug addiction;
2) To analyze the content features of literatures published during past 15 years;
3) To identify the commonly used Chinese herbs and toxic herbs;
4) To assess the quality of clinical trails of CHT in treatment of drug addiction;
5) To assess the efficacy and adverse effect of CHT in the treatment of withdrawal symptoms of heroin dependence.

Result:

1) Base on an extensive search and collection, a bilingual database (CDR) on CHT for drug addiction has been established. So far it is the most comprehensive and updated database in the field, which contains more than 340 professional literatures including 82 patent files. Besides the translation of the paper titles, author (patentee) names, institutions, sources, abstracts and keywords, the database also uniquely include the translations on the hundreds of herbal names (Chinese names, Chinese

pinyin, Latino names or Latino botanical names) from the papers. Microsoft Access program and Delphi language were used as the major data management systems. On top of the standard functions of bilingual searching, reading, saving and printing, it also included an illustration for 10 most frequently used herbs and 3 toxic herbs.

2) The results of literature categorization and classification showed an increase of publications in this field over the past decade, especially on clinical and laboratory researches. This reflected that the clinical application and experimental research of CHT in drug detoxification and rehabilitation gained popularity, and the quality of research data was improving gradually. Owning to the advantages and conveniences of CHT researches, more than 90% of the publications originated from Mainland China. Other countries like USA, Europe, Japan, Thailand and some other Asian countries have also performed researches in this field.

3) Functional categorizations of more than 200 Chinese herbs from 150 original articles and 85 patent literatures were conducted, and a frequency analysis was performed using the SPSS program. The results indicated that the Chinese herbs used in published literatures had a very broad functional spectrum. Tonifying herbs (補益强壯藥)、herbs for promoting blood circulation and removing blood stasis (活血化瘀藥)、herbs for clearing away heat (清熱藥)、herbs for tranquilizing mind (安神藥) and herbs for exterior syndrome (解表藥) were commonly used for drug detoxification and rehabilitation. The 10 most frequently used Chinese herbs and 3 toxic herbs are selected to shed light on the directions for further pharmacological experiments and clinical trials, which in turn building a solid foundation for obtaining more direct evidences.

4) Based on the principals and methods of Evidence Based Medicine, quality assessment and systematic review on 340 papers of CHT for drug addiction were performed. (1) Eleven clinic trials (658 cases treated with CHT in total of 1069 cases) that met the inclusive criteria were sited from 340 papers. The Jadad Scale assessment showed that the design of 4 trials were high quality scoring 3-5 marks while the else were lower than 2 marks. These low quality trials were poor in randomization and double-blind methods. (2) Meta-analysis indicated that the efficacy of CHT was statistically significant higher in treatment of withdrawal syndromes of Heroin dependence when compared with Western medications (Clonidine, Methadone, Tramadol, Estazolam, Buprenophine) (OR=2.22, 95% CI: 1.18, 4.18, P=0.01). The further subgroup analysis indicated that CHT appeared more effective than Clonidine therapy (5RCTs, OR=1.68, 95% CI: 1.15, 2.45, P=0.008), but there was not statistical difference in comparison between CHT and Methadone therapy (3RCTs, OR=3.42, 95% CI: 0.88, 13.27, P>0.05). (3)

Asymmetry of Funnel Plot documented the publication bias was presented in these papers that may affect the results of meta-analysis.

5) In Hong Kong, there are 31 herbs monitored seriously are listed in the guideline of the toxicity of Chinese herbs, 13 of them appeared in the original papers of our database, and there were total 65 literatures (75%) contained them. The top 3 toxic herbs which were frequently used and reported were *Radix Aconiti Lateralis Preparata* and *Radix Aconiti* (*Fuzi* 附子 and *Wutou* 烏頭, 32.7%), *Flos Daturae* (*Yangjinh* 洋金花, 27.4%), and *Rhizoma Pinelliae* (*Banxia* 半夏, 18.6%). The common adverse effects observed in above 11 trials were dizziness, nausea, vomiting, dry mouth, fatigue, faint, sweating, palpitation that were lighter than the therapies of Western medications (7RCTs, OR=0.42, 95% CI: 0.13, 0.24, P<0.0001). However, a critical concern is some trials reported that herbal preparations might exist with significant adverse effects. For example, in the trials of Fukanpan (福康片), more than 17% of participants suffered from delirium after treatment. It suggested that a standard assessment on all herbal preparations was absolutely necessary in further pre-clinical and clinical researches.