

## Processing of Traditional Chinese Herbal Drugs-the Science of the Application of Chinese Traditional Medicine

Zheng S, Wang T, Shi D, Guo L, Qiao S and Wang R\*

School of Chinese Materia Medica Beijing University of Chinese Medicine Beijing 100102 China

\*Corresponding author: Wang R, School of Chinese Materia Medica Beijing University of Chinese Medicine, No.6 Wangjing Zhonghuan Nanlu, Chaoyang District, Beijing, China 100102 China, Tel: 861084738646; E-mail: wangrufeng@tsinghua.org.cn

Received date: Oct 31, 2015, Accepted date: Nov 04, 2015, Published date: Nov 09, 2015

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### Editorial

Since Professor Youyou Tu obtained the Nobel prize, traditional Chinese medicine (TCM) has come into the people's vision again in the world. It displays the magic and mystery of TCM that has been developing for thousands of years. As a special subject, the processing of traditional Chinese herbal drugs plays an important role in the development of TCM.

The processing of traditional Chinese herbal drugs is a general term based on the theory of TCM and its characteristic for treating medicinal substances by various means before the medical use. In China, Master Lei's Discourse on Drug Processing [1] is the earliest book that describes the method of drug processing clearly. It includes the principle of drug processing which can increase the efficacy of the herbal drugs or reduce their toxicity.

As it is known to all of us that Four Natures and Five Flavours are the representative principle of TCM [2]. This principle is closely related to the processing of herbal drugs. Four Natures refer to the four characteristics including cold, heat, warm, and cool. Five Flavours mean five tastes including sour, bitter, sweet, acrid and salty. The nature and flavour of the drugs change along with the processing, and also create more effects than before. For example, Rhei Radix et Rhizoma has the actions to remove accumulation with purgation, clear heat and purge fire. However, its actions change into hemostasis after carbonizing by stir-frying. Somehow, the processing of traditional Chinese herbal drugs has become a very important part of TCM because it is the essential process previous to drug use. Further, it ensures the safety and efficacy of clinical medication.

Nowadays, the processing of traditional Chinese herbal drugs has been improved by modern science and technology. The combination of TCM and modern techniques, such as High Performance Liquid Chromatography (HPLC), Gas Chromatography-Mass Spectrometry (GC-MS), Liquid Chromatography-Mass Spectrometry (LC-MS) and

so on, makes it easy to understand the effective components and mechanism of Chinese medicine [3]. On the other hand, it clearly reflects how the important components change before and after processing. Take Polygonum Multiflorum for example, the content of free anthraquinones in concocting Polygonum multiflorum is slightly higher than in original one, but the content of conjugated anthraquinones in original Polygonum multiflorum is obviously higher than in concocting one [4]. The combination can also be applied to create a set of standards to help the manufacture of drugs.

Unfortunately, the processing of traditional Chinese herbal drugs is not recognized by all people. Some drug development workers prefer researching natural compounds to studying herbal pieces for decoction. It reflects that the processing of traditional Chinese herbal drugs lacks a reasonable explanation in some extent. The traditional Chinese thought like Yin-Yang, which is obscure for most people, is deeply rooted in the principle of the use of TCM. This is one reason why Chinese medicine is difficult to be internationalized. So, it requires scholars to create a bright expression and apply modern science and technology to develop a safe, rational and effective detection index in order to lead the processing of traditional Chinese herbal drugs to be qualitative and quantitative.

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