中医药国际发展现状与未来——中药煎煮技术的传承与创新

Current Status and Future of International Development of TCM
——Inheritance and Innovation of TCM Decoction Technology

翟华强 Prof. Huaqiang Zhai 北京中医药大学中药调剂标准化研究中心 北京中医药大学金世元名老中医工作室 2023.10.11

Standardization Research Center of Chinese Medicine dispensing Beijing University of Traditional Chinese Medicine

The studio of prestigious TCM doctor Shiyuan Jin Beijing University of Traditional Chinese Medicine



中医药进入信息化、数智化时代



TCM is embracing the times of information and digital intelligence

Policy documents issued by the Chinese government encourage the development of TCM

2016年

国务院

中医药发展战略规划纲要(2016-2030年)

国发 (2016) 15号

▶ 加快中医药信息化发展,促进中医药健康养生服务网络化、智能化、个性化发展

Outline of the Strategic Plan for the Development of TCM







2017年

主席令第五十九号

中华人民共和国中医药法

▶ 中医药传承创新发展 法治保障

Law of the People's Republic of China on TCM

2018年

国家中医药管理局

关于印发中医药健康服务产业 发展指南的通知

▶ 明确提出"推动<u>中医药服务</u> 的互联网化和智能化"

Circular on the Issuance of Guidelines for the Development of TCM Health Service Industry 中共中央 国务院

2019年

关于促进中医药传承创新发展的意见

- ▶ 党中央首次发布中医药政策文件
- 以信息化支撑中医药服务体系建设。
- ▶ 实施"互联网+中医药健康服务"行动

Opinions on Promoting the Development of TCM Inheritance and Innovation

2022年

国家中医药管理局

关于印发"十四五"中医药信息化发展规划的通知

- ▶ 以数字化、网络化、智能化促进行 业转型升级
- 要求增强数字便民惠民服务能力

Notice on the issuance of the "14th Five-Year Plan" for the development of informatization of TCM







一、中药煎煮的历史源流

1. Historical origin of TCM decoction



二、现代煎药的产业创新

2. Industrial Innovation in Modern Decoction



三、中医临床药学的未来

3. Future of Clinical Pharmaceutical Services of TCM







- 《神农本草经》: "药性有宜丸者、宜散者、宜水煮者、宜酒渍者、宜膏煎者、也有一物兼宜者、也有不可入汤酒者,并随药性、不得违越。"
- 《伤寒杂病论》:详述了汤剂煎煮的溶媒、煎法、火候、服法、服量、禁忌等。煎药方法还有先煎、 后煎、包煎、另煎之分,服药方法有温服、顿服、分服等。
- 》 《本草纲目》: "凡服汤药,虽品物专精,修治如法,而<mark>煎药者,鲁莽造次,水火不良,火候失度</mark>,则药也无功"。
- 《医学源流论》: "煎药之法最宜深讲,药之效与不效,全在乎此。"
- > Shennong Bencaojing: According to the herbal properties, some medicines are suitable for pills, for powders, for boiling in water, for being impregnated with wine, for decocting in paste, and some medicines are ideal for both. However, some are not allowed to be used in potion or wine. They follow the properties of the herb and should not be transgressed.
- > Treatise on Febrile and Miscellaneous Diseases: The solvent, decoction methods, fire, serving, dosage, and contraindications of decoction are described in detail. The decoction methods are also divided into decocting first, decocting later, decocting in wrapped condition, and decocting alone. Serving the medicine includes warm, tonic, and divided servings.
- > Compendium of Materia Medica: Even if the herbs are of high quality and carefully prepared according to the doctor's prescription, the efficacy of the medicine will be affected if the person who decocts the herbs is unprofessional and careless in the process of decocting, with an inappropriate ratio of water to fire, or an inaccurate mastery of the fire.
- > On the Origin of Medicine: The decoction methods should be taught in-depth, and the effectiveness of the medicine depends on it.

2023/9/21





一、中药煎煮的历史源流 Historical origin of TCM decoction

始于先秦时期

《素问·汤液醪醴论》

Beginning in the pre-Qin period

成于两汉时期

《伤寒杂病论》

Established in the Han Dynasty

盛于魏晋隋唐

《备急千金要方》

Prosperous in the Wei, Jin, Sui and Tang dynasties

变革于宋金元

《太平惠民和济局方》

Transformation in the Song, Jin and Yuan

完善于明、清

《伤寒六书》

Perfected in the Ming and Qing Dynasties

五 阶 段 Five Phases

Part 1

第一阶段 始于先秦时期

Phase I Beginning in the pre-Qin period



■ 伊尹创汤液,

由厨入宰,辅国宰相

"治大国若烹小鲜"

"不为良相, 亦为良

医"

《史记・殷本记》:

"伊尹以滋味说汤"

■ 汤剂创始人:

《**汤液经法**》奠定了 中医方剂学的基础,

"元圣"

Yi Yin created the soup,

He used to be a chef, then became an auxiliary chancellor.

Governing a country is like making a meal

Even if he wasn't a good chancellor, he was a good physician.



"Yi Yin spoke of decoction in terms of taste."

Founder of Decoction:

Tang Yejingfa laid the foundation of TCM prescription science, and Yi Yin was known to posterity as "Yuan Sheng."









Part 1

素问·汤液醪醴论



【原文】

帝曰:上古圣人作汤液醪醴,为而不用,何也?

岐伯曰:自古圣人之作汤液醪 醴者,以为备耳。夫上古作汤 液,故为而弗服也。中古之世, 道德稍衰,邪气时至,服之万 全。

帝曰: 今之世不必已何也? 岐伯曰: 当今之世, 必齐毒药 攻其中, 鑱石针艾治其外也。

- ■素问・汤液醪醴论(节选)
- 本篇首论汤液、醪醴的制作及用途 ,以之名篇。
- This is the first treatise on how to make tangue and liaoli, it also mentions what they are used for, which makes this article famous.
- 篇解:
- ■1. 汤液,清稀淡薄的酒类;
- ■2. 醪醴,稠浊甘甜的酒类。

Comments of the text:

- 1. Tangye: A kind of wine that is thin and light.
- 2. Liaoli: A kind of wine that is thick and sweet.



第二阶段 成于两汉时期 Phase I Established in the Han Dynasty



传统煎药技术

Traditional decoction techniques

- F 用水种类 Types of Water
-) 煎煮时间
 Time of Decoction
- > 煎药浓度

Concentration of Decoction









Types of Water for TCM Decoction

- 一、通常用水: 洁净水。
- 二、特殊用水
- **1.**泉水
- 性能浅析 性寒,解热养阴、 除烦止渴、通利小便、安 定五脏。
- 宜煎药物养阴药、安神药等。
- 应用举例 百合知母汤、 滑石代赭汤、百合鸡子汤、 百合地黄汤——阴虚燥热 证。

- ◆ I Usually Water: purified water.
- **◆Ⅲ** Specialized Water:
- 1.Spring water:
- ◆Properties analysis: cold nature, it can clear heat and nourish Yin, relieving vexation, quenching thirst, inducing diuresis, and stabilizing the five viscera.
- ◆Suitable medicines for decocting: the medicines that nourish the Yin, tranquilizer.
- ◆Examples: Lily and Anemarrhenae Decoction, Talcum and Red Ochre Decoction, Lily and Chicken Decoction, Lily and Rehmanniae Decoction—all used to treat Yin deficiency and dryness-heat syndrome.



CENTER STATE

中药煎煮时间

Decoction Time of TCM

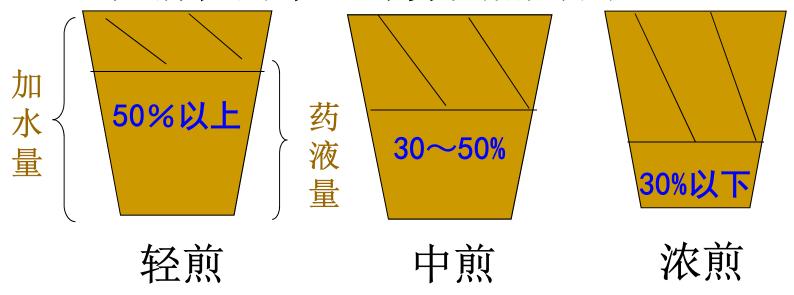
- 1.以指示剂变化确定煎药时间
- 古方中,有些要求在煎煮时加入指示剂,以指示剂变化作为药物是否煎成的标志,以此确定煎煮的相对时间。
- 《伤寒杂病论》中的白虎汤、白虎加人参汤、桃花汤、竹叶石膏汤、附子粳米汤等,煎煮时加入粳米,煎药要求是"米熟汤成"。
- 粳米即有调和药性、顾护脾胃的作用,又有煎药指示剂的功能。
- 1. Determining the decoction time by the change of the indicator.
- ◆In the ancient formulas, some require that an indicator be included in the decoction to determine the decoction's relative time by taking the indicator's change as an indication of whether or not the medicine has been decocted.
- ◆White Tiger Decoction, White Tiger Plus Ginseng Decoction, Peach Blossom Decoction, Lophatherum and Gypsum Decoction, and Aconite and Rice Decoction, etc., are added to Japonica Rice when decocting, and the decoction requirement is "rice cooked and decoction completed."
- ◆Japonica rice harmonizes the medicinal properties, protects the spleen and stomach, also indicates the decoction.



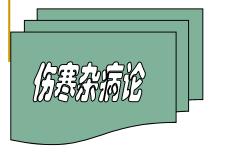




2.以消耗的水量计算煎煮时间



2. Calculating the decoction time in terms of the amount of water consumed.

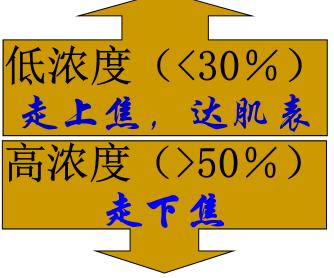


中药汤剂浓度



concentration of decoction

- 《金匮》23首汤剂可以计算浓度(g/mL)
- 甘草麻黄汤(15%)
- 桔梗汤 (22.5%)
- 胶艾汤(55%)
- 茯苓泽泻汤 (57.5%)



23 decoctions can be calculated concentration in the *Synopsis of Golden Chamber(g/mL)*

- ➤ Licorice and Ephedra Decoction (15%)
- ➤ Platycodon Decoction (22.5%)
- ➤ Ass-hide Glue and Argyi Leaf Decoction (55%)
- Poria and Alisma Decoction (57.5%)



第三阶段 盛于魏晋隋唐 Phase Ⅲ Prosperous in the Wei, Jin, Sui and Tang dynasties



《备急千金要方》药饵制备规范

- 凡煮汤,当取<u>井华水</u>,极令净洁,升斗分量勿使多少,煮之调和,候火用心, 一如炼法。
- 凡煮汤,用微火,令小沸,其水数根 据方多少,大略<u>二十两药用水一斗</u>,煮取四升,以此为率。
- 凡煮汤,然则利汤欲生,<u>少水而多取汁者</u>,为病须快利,是以少水而多取汁。

Preparation of medicinal bait from the Bijiu Qianjin Yaofang

- ◆When preparing decoction, we draw water from the well for the first time in the morning and make it purify. We do not make much of the liter bucket. Then we should harmonize it, and wait for the fire carefully, just like the refining method.
- ◆When preparing decoction, we should use a small fire to make a slight boil, and the water is based on the formula. The rate often refersthat 20 taels of medicine use a bucket of waterand four liters of boiled water.
- ◆When the decoction is prepared, but then it wants to be born. We need less water and more decoction because the disease must be efficient and it is less water and more fluid.





第四阶段 变革于宋金元





- **◆**Decoction forms
- ◆Decocting utensils
- **◆**Drinking utensils

汤剂形式煎煮器具饮用器具



Transformation in the preparation of decoction

汤剂制备变革





- 宋朝医风大改
- 饮茶之风流行
- 陶瓷工艺发展
- ◆The big change of medicine in the Song Dynasty
- ◆The trend of Tea drinking
- ◆Development of Ceramic Craft



中药煮散的传承与创新



Inheritance and Innovation of TCM boiled powder

中药煮散的鼎盛于宋代,又如而那些真正的汤剂,也多为南宋以后补入的,庞安时指出当时已 经形成了"古方汤液存而不用"的局面。



《太平圣惠方》中**几乎全用煮散**,原为 汤剂的亦改为煮散。



《博济方》中所载医方,绝大部分亦为煮 散剂,基本是以散代汤。



《太平惠民和剂局方》中,采用煮散的方剂总计有237首,占总方剂数788首的30.07%,其中汤剂方共128首,采用煮散法的有68首; 散剂方共241首,采用煮散法的共132首。

- ◆The heyday of Chinese medicine boiled powder was in the Song Dynasty. Some absolute decoctions were mainly replenished after the Southern Song Dynasty. Pang Anshi pointed out that "Ancient decoctions were stored but not used" had already been formed at that time.
- ◆In *Taiping Shenghui Fang*, boiled powder was used almost exclusively, and those originally in decoction were also changed to boiled powder.
- ◆Most of the prescriptions contained in the *Boji Fang* are also boiled powder, basically replacing decoction with boiled powder.
- ◆In *Taiping Huimin Hejiaobu Fang*, there are a total of 237 prescriptions that use boiled powder, accounting for 30.07% of the total number of 788 prescriptions. Among them, there are 128 prescriptions in decoction and 68 prescriptions in boiling and dispersing.And it has a total of 241 prescriptions in bulk formulas and 132 prescriptions in boiling and dispersing.



第五阶段 完善于明、清





- ◆ 煮散剂的弊端逐渐显露,煮散之风也遂渐渐衰落,继之以饮片兴起。
- ◆ 陶华《伤寒六书》中已经明确记载了中药饮片形式,如"一用川大黄,须锦纹者, 佳。锉成饮片,用酒拌匀,干燥,以备后用"。
- ◆ 饮片的出现、流行是社会生产力与经济发展的产物,明清药材开始私营,另外<u>生产</u> 工具的改进,如出现了加工饮片的专用切制刀具,是其得以广泛应用的经济、物质 基础。



- The disadvantages of boiled powder were revealed little by little, and less people use it. Then decoction pieces became popular.
- Tao Hua's Six Books of Typhoid Fever has been recorded decoction pieces in TCM. For example, "A use of Sichuan rhubarb shall be brocade grain. It fshould be filed into decoction pieces, mixed with wine, and then dried for later use".
- The emergence and popularity of decoction pieces were the products of social productivity and economic development. Herbs in the Ming and Qing dynasty began to be privately owned, in addition to the improvement of production tools. For example, the emergence of a special cutter for processing decoction pieces, is the economic and material basis for its widespread use.





第五阶段 完善于明、清



Phase V Perfected in the Ming and Qing Dynasties

饮片较之药物细末,三大优点:

- ◆ 在药材的形态上,饮片的形式有利于药材的辨认及质地、品种的鉴别,保证药物的质量;
- ◆ 在<mark>药材的煎煮</mark>上,由于饮片块度大,可以避免煮散剂的浑浊,保证药液的澄清
- ,便于服用;
- ◆ 使用饮片的形式入汤煎煮,能够满足一些特殊药物的煎煮要求。

Decoction pieces have three major advantages over medicinal powder:

- ◆In the form of herbs, decoction pieces is conducive to identifying spices and texture, which can ensure the quality of the medicine;
- ◆In the decoction of herbs, due to the large size of decoction pieces, it can avoid the turbidity of boiling bulk to ensure the clarification of the liquid, which is easy for patients to take;
- ◆Using decoction pieces in decoction can also meet the requirements of some particular medicine decoction.





中药传统煎煮技术





Seven **Elements**

煎煮容器 **Decocting Utensils**

> 加水 Water Addition

> > 火候 Heat Control

煎煮时间 **Decocting Time**

煎药浓度 **Decocting Concentration**

煎药次数 **Decocting Times**

特殊煎煮方法 **Special Decocting Methods**



Ancient Decoction Specifications





现代煎药的产业创新



Industrial Innovation in Modern Decoctions

2009-2015年

国家标准《煎药中心通 用要求》

2022年

2000年

上海医疗机构开始 。 委托饮片企业代煎中药。

煎药机普及推广 中药煎药机国家标准

中药煎药机行业标准

中药煎药机ISO标准

1990年

中药煎药机 由韩国引入北京市场

1990: Chinese Medicine decoction machine introduced to the Beijing market from Koreae.

2000: Shanghai medical institutions entrusting decoction pieces' enterprises to decoct Chinese medicines.

2009-2015: Popularization and Promotion of Decoction Machine

- ♦ National Standards for Chinese Medicine Decocting Machine
- ♦ Industry Standard of Chinese Medicine Decocting Machine
- **ISO Standard for Chinese Medicine Decocting Machine**
- 2022: National Standard General Requirements for Decoction Centers
- ▶ 卫生安全,质量可控
- ▶ 提高效率,携带方便
- ▶ 百姓需求, 工业生产
- Health and safety, control the quality
- Improving efficiency, being easy to carry
- The demand of the people, industrial production

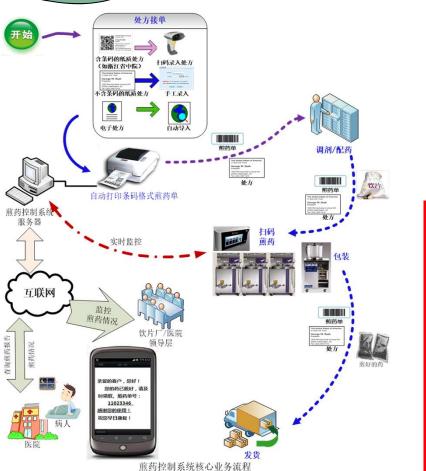




中药煎药中心全流程信息控制

Chinese medicine decoction centers control the information of the whole process





现存问题

剂型单一

质控标准不连续



仅

有

中药

煎

汤

剂

信

息

化

缺乏类似中成药质控标准

Existing issues

- ◆Single preparation form
- ◆Discontinuous quality control standards



- ◆Only Chinese Medicine Decoction Informatization
- ◆Lack of quality control standards for similar PCMs



科学选择中药剂型保障临床疗效

并随药性

不得违越

Scientific Selection of Chinese Medicine Preparation to Ensure Clinical Efficacy





药性有:

- 宜丸者
- 宜散者
- 宜水煮者
- 宜酒渍者
- 宜膏煎者
- 亦有一物兼宜者
- 亦有不可入汤酒者

According to medical properties, some medicines are suitable for pills or powders. Some are for boiling in water, being impregnated with wine, or decocting in paste. Some medicines are ideal for both. However, some are not allowed to be used in potion or wine.

They follow the **properties** of the herb and should not be transgressed.



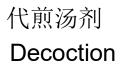






代煎膏滋 Paste Preparation 虚则补之

Treat deficiency by tonification





代煎颗粒 Granules 实则泻之 Treat excess by purgation

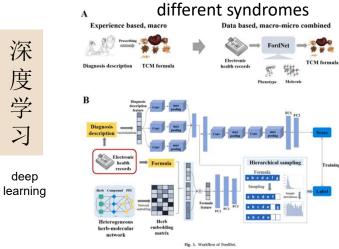




智能剂型推荐+实时质量控制

Intelligent preparation recommendation + real-time quality control

不同证候处方剂型推荐 Recommendations for prescribing preparation for

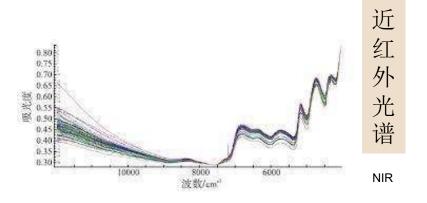


"方-证-药-剂-标" 中药代煎汤剂成药规律

"Prescription-Syndrome-Medicine-Preparation-Symbol."

The Law of Chinese Medicine Decoction

制剂过程质量控制 Quality control of preparation processes



光谱无损检测技术 中药代煎汤剂的稳定性控制

Spectral non-destructive testing technology Stability control of Chinese medicine decoction

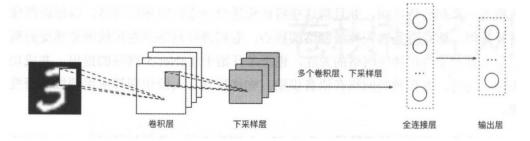


中药代煎汤剂不同类别的成药性规律



Pharmacogenetic pattern of different categories of Chinese medicine decoctions





网络嵌入学习



方剂相似度评价

深度学习算法 Deep Learning

基础数据库 Basic database

- 构建合中药饮片"方-证-药-剂-标"网络
- 实现新处方中药饮片组合的智能剂型推荐模式
- ◆Constructing a network that is" Prescription-Syndrome-Medicine-Preparation-Symbol" for Chinese medicinal decoction pieces.
- ◆Realizing the Intelligent preparation Recommendation Patterns for New Prescription Combinations with Traditional Chinese Medicine decoction pieces.







Application of non-destructive testing technology in on-line inspection for quality control of traditional Chinese medicine

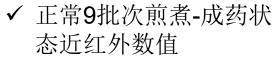
- ✔总皂苷
- ✓总黄酮
- ✓总糖
- ✓其他

比色法测定指标性成分



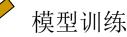
在线采集 煎煮过程 近红外光谱





✓ 异常10批次煎煮-成药 状态近红外数值







指标成分含量检测模型

汤剂煎煮故障监测模型

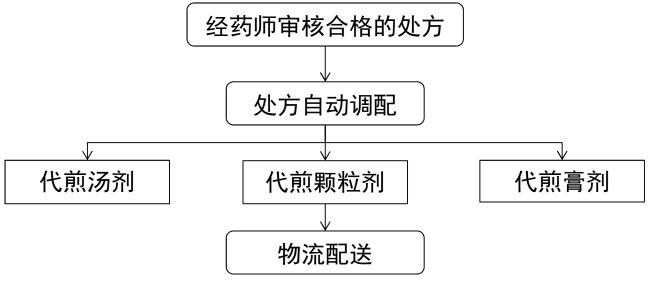
- ▶ 正常煎煮状态监测
- 异常煎煮状态警示
- Normal decoction status monitoring
- Abnormal decoction status warning







Automatic Production Control System for Chinese Medicine Decoction



流程规范

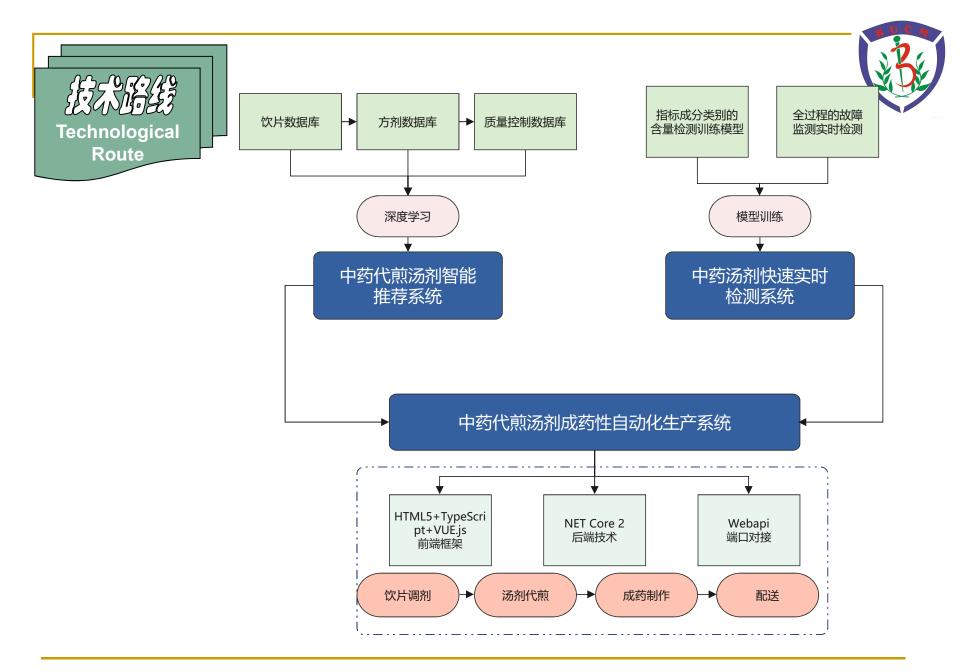


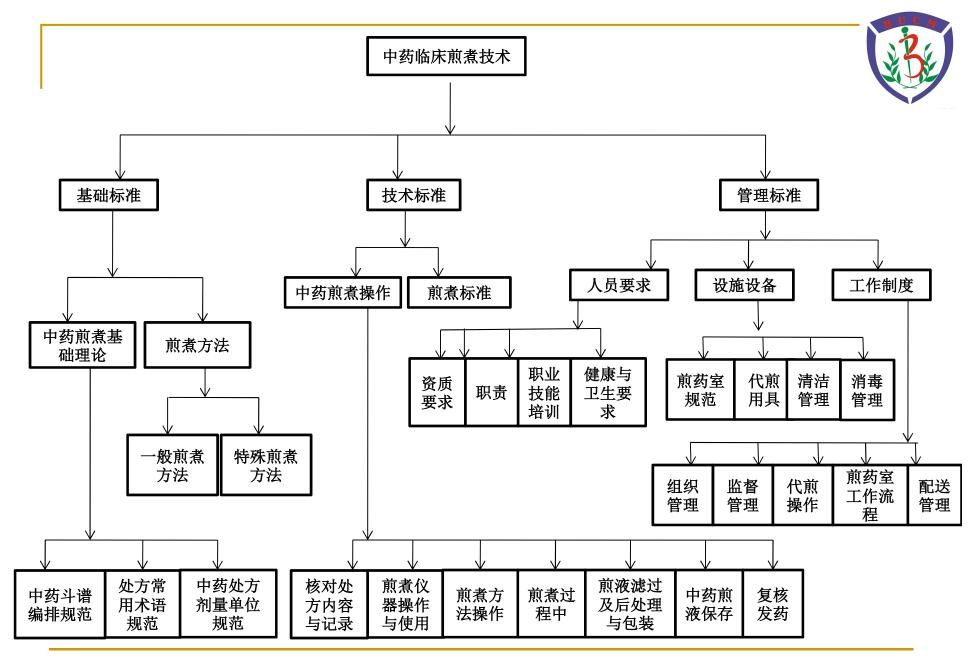
信息系统

Process specification + information system

> 实现中药代煎汤剂成药自动化生产控制

Realization of automated manufacturing controls of Chinese medicine decoctions







中医临床药学的未来

The future of Clinical Chinese Pharmacy



第 38 卷第 3 期 2013 年 2 月



Vol. 38, Issue 3 February, 2013

中医临床药学的现状与未来

程华强13,王燕平18,王永炎2.3

- (1. 北京中医药大学 中药学院, 北京 100102;
- 2. 中国中医科学院 中医临床基础医学研究所, 北京 100700;
- 3. 北京师范大学 资源生态与中药资源研究所, 北京 100875)

[摘要] 中医临床药学是联系中医理论与中药应用的桥梁,该文系统梳理了临床药学的历史沿革,对中医临床药学的现 状进行全面回顾,提出发展中医临床药学的路径,以冀加强中医临床药学的学科建设和科学研究。

[关键词] 中医临床药学;历史沿革;发展路径

随着我国医药卫生行业的改革和发展,医院药学和社会药学工作的任务正在发生重大改变,主要表现在从面向药品向面向病人转变,从以药品供应为主向以合理用药为主导转变^[1]。临床药学(clinical pharmacy)是药学与临床相结合,直接面向患者、以患者为中心,研究与实践临床药物治疗,提高药物治疗水平的综合性应用学科。作为中医药学与临床实践相互沟通与交流的纽带和桥梁,加强中医临床药学的学科建设和科学研究具有重要现实意义和学术价值。

1 临床药学的沿革

I.1 被动服务时期 早在19世纪50年代, 医院药师就开始参与临床药学工作, 如法国医院药师和医生一起巡视患者, 参与药物治疗, 但当时只限于提供一般的药品知识的服务。1952年美国药学会的道德准则中规定^[2]; "药学的主要任务是服务, 即向公众提供安全的制剂和药品, 药师不与患者讨论药物的治疗作用、处方成分, 如有患者询问, 应请其与医生联系。"

南"(The Audit of Pharmaceutical Service in Hospital),提出医院药师可以完成的事情即临床药学^[3]。1966 年,"临床药学"和"药物使用控制"的概念在加利福尼亚大学医学中心明确提出,它包括卫星药房、单位剂量发药系统、药物情报中心和患者药历。随着美国卫生保健制度的改革,特别是医疗补助方案和医疗照顾方案的出台,进一步推动了医院药学的发展。1969 年,美国药学会的职业道德准则改为^[4];"药师应把患者的健康和安全作为首要任务,应向每个患者充分提供自己的专业才能。"

1.3 临床药学服务时期 药学服务的不断推进,临床药学 的工作实践范围逐新扩大,药师参与对患者的具体治疗工 作,并且更注重于直接面对患者进行服务,以保证药学服务 的质量,并且临床药师的目光开始转向医院以外患者的药物 治疗,涉及在健康中心开展合理用药工作。

20世纪80年代,药学工作进入临床药学服务(pharmaceutical care)时代。由于各国对控制卫生费用增长的普遍要

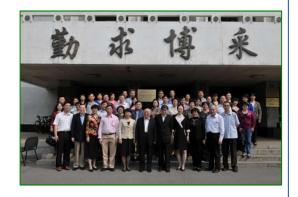
- 1、中药调剂是中医临床药学工作的基础
- 2、合理用药是中医临床药学工作的核心
- 3、**药物相互作用和配伍**是中医临床药学工作的关键
- 4、中**药情报收集与咨询服务**是中医临床药 学工作的**保障**
- 1. Chinese medicine dispensing is the **foundation** of Chinese medicine clinical pharmacy work.
- 2.Rational use of medication is the **core** of clinical pharmacy in traditional Chinese medicine
- 3.Drug interactions and compounding are **key** to clinical pharmacy in traditional Chinese medicine
- 4.Intelligence Collection and Consultation Service on Chinese medicines are as a guarantee for Chinese medicine clinical pharmacy work





金世元名老中医工作室 The studio of prestigious TCM doctor Shiyuan Jin





北京市中医管理局文件

京中医科字[2014]111号

北京市中医管理局关于 同意设立金世元名老中医工作室分部的批复

首都医科大学、北京中医药大学:

你单位关于设立金世元名老中医工作室分部的请示收悉, 经研究, 同意设立北京中医药"薪火传承3+3工程"金世元名老中医工作室北京中医药大学分部, 研究重点为中药调剂方向, 分部负责人为程华强, 依托单位为北京中医药大学, 工作计划由金世元教授指导金世元名老中医工作室负责人和分部负责人共同抗行, 日常工作由分部负责。

请分部按照"薪火传承3+3工程"实施方案和建设标准实施建设。 设,尽快制定传承工作计划,建立传承工作团队,认真做好金世元 教授中药调剂方面的经验总结和学术传承,对金世元教授学术思想 和中药调剂技能进行系统整理,促进中药调剂学的继承和发展。 特此批复。



北京市中医管理局办公室

2014年8月18日印发

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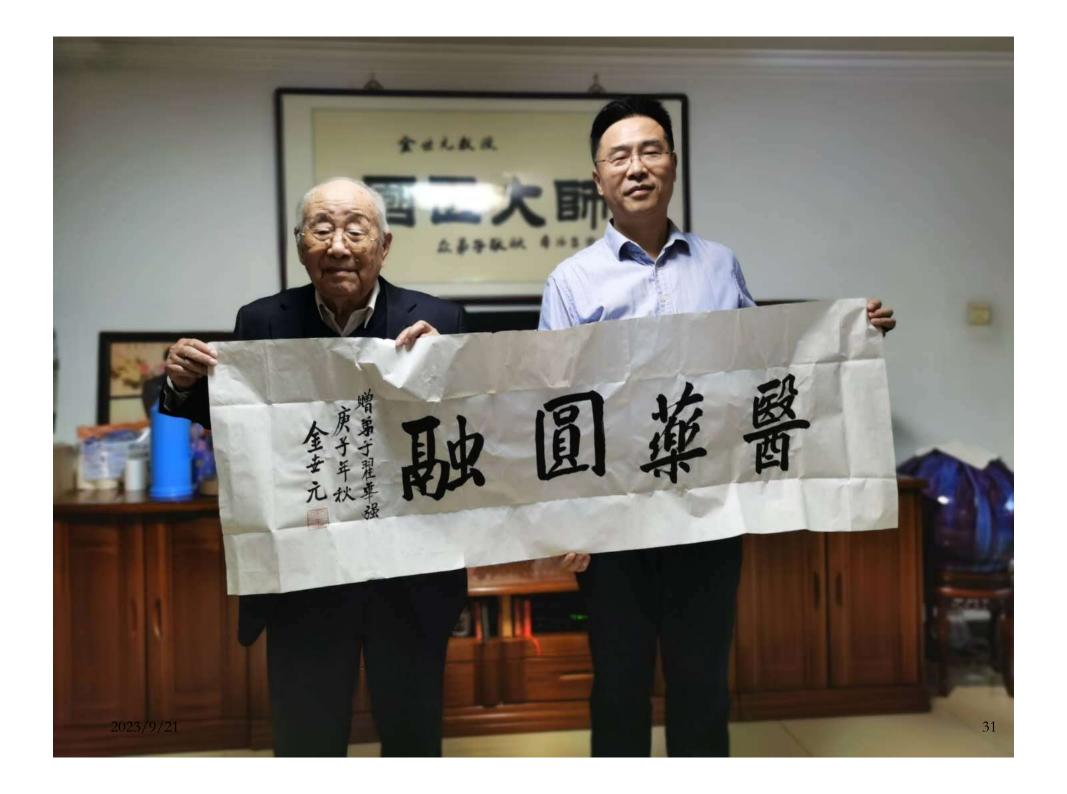
老药工学风作风大师精神传承平台



Prestigious Pharmacists Learning Style and Master Spirit Inheritance Platform











调剂技术标准体系

Standardized system of TCM Dispensing



中药质量 控制标准

Quality control standards for Chinese medicines

- 无硫加工饮片质量标准8项(白芍、白术、 当归、党参、怀菊花、黄芪、牛膝、山药)
- ▶ 饮片质量分级标准4项(地黄、山药、牛膝 化橘红)



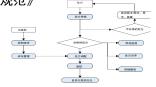




中药调剂 服务标准

Chinese Medicine
Dispensing Service
Standard

- 《临床急危重症常用中成药调剂技术规范》 10项标准
- 《中药饮片处方集》规范化体系







调剂全流 程数智化

Digital Intelligence for the whole process

- 《医共体共享中药房中药调剂信息技术规范》
- 《共享中药房中药调剂信息系统建设指南》







中药调剂国际标准





ISO国际 标准 ISO international

standard

- 《中医药─中成药调剂的质量与安全》
- > 《中医药--中药配方颗粒调剂设备》

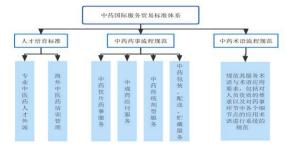
世界中联 国际组织 标准标准

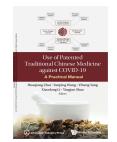
标准标准WCF International
Organization Standards

- 《中药调剂职业教育规范》(已发布)
- 《中药饮片药事服务规范》
- 《常用中药汤剂服用指南》
- 《中药饮片调剂自动化设备通用技术要求》
- 商务部 国际贸易 标准

Ministry of Commerce International Trade Standards

- 《中药饮片药事服务国际标准》
- 《中成药给付国际标准》
- 《中药传统剂型服务国际标准》
- 《中药包装配送贮藏国际标准》







调剂技术 标准体系

Standardized system of TCM Dispensing

中国抗疫 方案

China Antiepidemic Program

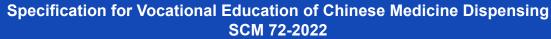


教育示范 基地平台

Platform of Educational Demonstration Bases



中药调剂职业教育规范SCM 72-2022





世界中医药学会联合会秘书处文件

世界中联秘发(2022) 76号

世界中医药学会联合会国际组织标准 发布公告

World Federation of Chinese Medicine Societies Announcement for International Standards

世界中医药学会联合会批准《中药调剂职业教育规范》(SCM 72-2022)发布,现予公告。

The SCM standard (SCM 72-2022) of Specifications for Vocational Education of Chinese Medicine Dispensing was approved by World Federation of Chinese Medicine Societies and was officially issued on December 29, 2022.

World Federation of Chinese Medicine Societies 2022 年 10 月 29 日

October 29, 2022

世界中医药学会联合会秘书处

2022年10月27日印发

SCM世界中医药学会联合会
World Federation of Chinese Medicine Societies

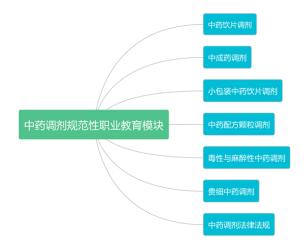
SCM 72-2022

中药调剂职业教育规范

(发布稿)

Specification for Vocational Education of Chinese Medicine Dispensing (Final draft)

世界中联国际组织标准 International Standard of WFCMS 2022-12-29 发布实施 Issued & implemented on 29 Dec 2022







法国中药调剂职业教育示范基地



Demonstration Base for TCM Dispensing Vocational Education in France













与中法中医药中心合作,建立了"法国中药调剂职业教育示范基地",开展了一系列交流

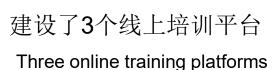
My team, in cooperation with the China-France Center for Traditional Chinese Medicine, established the "Demonstration Base for TCM Dispensing Vocational Education in France" and carried out a series of exchanges



中药调剂教育平台

TCM dispensing education platform





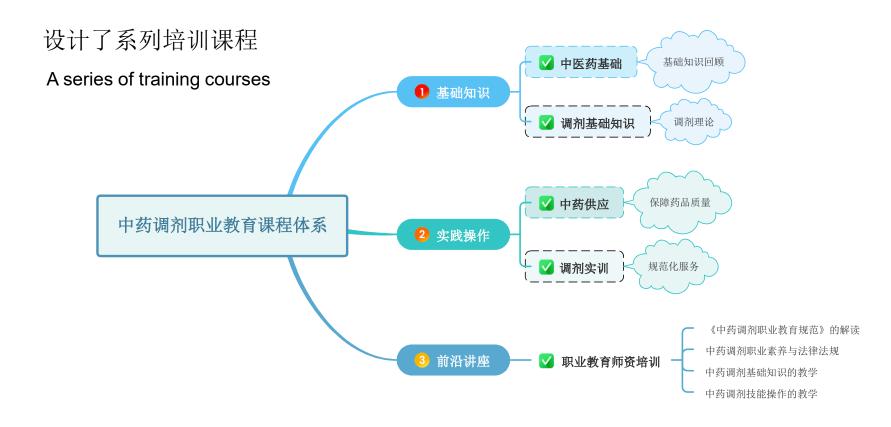




中药调剂职业教育课程体系



TCM dispensing vocational education curriculum system







- · 北京中医药大学教授、主任医师、博士生导师
- · 国际标准化组织(ISO/TC 249)中方专家
- 世界中医药学会联合会中药调剂专业委员会会长
- 中国中医药信息学会中药调配与监测分会会长
- · 北京中医药养生保健协会副会长兼法人代表
- TEL: 13717924797(微信同号)
- E-mail: jz711@qq.com
- Professor and chief physician, Beijing university of Chinese medicine
- ➤ SAC experts of ISO/TC 249
- Chairman of Specialty Committee of TCM Dispensing of WFCMS
- Chairman of Specialty Committee of TCM dispensing and monitoring of CIATCM
- ➤ Vice chairman and legal representative of Beijing TCM health care association

