Research and Practice of Integrative Medicine in Hong Kong

香港中西醫結合的研究與實踐

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Research of Integrative Medicine: How?

• R&D: Efficacy 療效
  • Randomized controlled trials 隨機對照試驗
  • Meta-analysis and systematic review 薈萃分析和系統綜述

• Policy: Effectiveness 現實效用
  • Outcome research 研究成果
  • Cost-effectiveness 成本效益
  • Quality of life 生活質量
Randomized controlled trials 隨機對照試驗

Electroacupuncture Reduces Duration of Postoperative Ileus After Laparoscopic Surgery for Colorectal Cancer

SIMON S. M. NG, WING WA LEUNG, TONY W. C. MAK, SOPHIE S. F. HON, JIMMY C. M. LI, CHERRY Y. N. WONG, KELVIN K. F. TSOI, and JANET F. Y. LEE

Division of Colorectal Surgery, Department of Surgery, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, Hong Kong SAR

Efficacy of a Chinese Herbal Proprietary Medicine (Hemp Seed Pill) for Functional Constipation

Chung-Wah Cheng, Mphil¹, Zhao-Xiang Bian, PhD¹, Li-Xing Zhu, PhD², Justin C.Y. Wu, MD³ and Joseph J.Y. Sung, MD, PhD³
Systematic review and meta-analysis
Is it a viable solution?
系統回顧和薈萃分析: 它是一個可行的解決方案？

Common conclusions
• Flawed methodology 有缺陷的方法
• Heterogeneity 異質性
• Publication bias 發表偏倚
• Need of randomized controlled trials

Systematic review: the efficacy of herbal therapy in inflammatory bowel disease
S. C. Ng, Y. T. Lam, K. K. F. Tsoi, F. K. L. Chan, J. J. Y. Sung & J. C. Y. Wu
What has not been addressed in RCTs?

- Chinese medical diagnoses
- Multi-component treatment (多元的治療)
- Treatment individualization (個體化治療) according to CM diagnoses (辨証)
- Diagnoses and interventions change during the course of treatment
- Outcome measures (觀察指標) based on Chinese medicine theories
## Pragmatic Trials Vs Randomized Controlled Trials

<table>
<thead>
<tr>
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<th>Randomized controlled trial</th>
<th>Pragmatic trial</th>
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<tr>
<td><strong>Aim</strong></td>
<td>Actual efficacy 實際功效</td>
<td>Practical success 實踐成功</td>
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<tr>
<td><strong>Setting</strong></td>
<td>Controlled environment 受控環境</td>
<td>Real life practice 現實生活中的實踐</td>
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<tr>
<td><strong>Comparator</strong></td>
<td>Placebo, sham 安慰劑，假手術</td>
<td>Conventional treatment 常規治療</td>
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<tr>
<td><strong>Blinding</strong></td>
<td>Blinded</td>
<td>Un-blinded 揭盲</td>
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<tr>
<td><strong>Intervention</strong></td>
<td>Standardized</td>
<td>Standardized or individualized</td>
</tr>
<tr>
<td></td>
<td>Often single component</td>
<td>Often multiple components</td>
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<tr>
<td><strong>Health economics</strong></td>
<td>Not evaluated</td>
<td>Cost-effectiveness Quality of life</td>
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Limitations of Pragmatic trials
務實試驗的限制

• Patient self-selection 患者的自我選擇
• Larger sample size needed for comparison with active treatment 比較積極治療需要較大的樣本量
• Lack of compliance and high drop-out rate 缺乏合規性和高退出率
• Inability to determine the essential components of a “package” of care 無法確定“一攬子”的護理的重要組成部分
• Inability to determine the placebo effect 無法確定安慰劑效應
Big Data Research of Chinese Medicine

中醫藥的大數據研究

Data Warehouse

Metadata

Raw Data

Summary Data

Integration of biomedical databases

整合生物醫學數據庫

Web Programming 網頁編程

Text Mining 文本挖掘

Bioinformatics Analysis 生物信息學分析

R&D

Healthcare service

Public access
Chinese Medicine Networks derived by Big Data Analysis

Clustering of Core Herb Combinations for Ischemic heart disease

CM management networks for Hypertension

Courtesy of Prof. Aiping Lu, HKBU
Big Data: Ultimate solutions for CM Research?

大數據：中醫藥研究終極解決方案？

- **Strength**
  - Powerful tool to identify the commonest TCM combinations for specific disease entities
  - Facilitate CM innovation with the development of new formula

- **Weakness**
  - Popular ≠ Effective (e.g. Aqua is present in most TCM formulae)
  - Lack of predictive value for clinical outcome
Combined Approach of Big Data and Pragmatic Trial for Integrative Stroke Rehabilitation Model

Big Data Analysis → Commonest herbal formulae for stroke
Data mining of CM Prescription Database → Patient identifiers
Clinical Outcomes (Recurrent stroke, cardiac event, bleeding complications, mortality, etc.) → CUHK Stroke Registry

Pragmatic Trial: Integrative Care Vs Conventional Care
Research directions of integrative medicine

• **Cross validation** 交叉驗證
  – Diagnoses 診斷
  – Outcome measures 觀察指標

• **Effectiveness** 效益
  – Clinical outcome 臨床療效
  – Quality of life 生活質量
  – Healthcare cost and resource utilization 醫療成本與資源利用

• **Safety** 安全性
  – Herb-drug interaction 藥草藥物相互作用
  – Adverse events 不良反應
Practice of Integrative Medicine: How?

- One clinician serving both roles 一個醫生兼任中醫和西醫的角色
- Joint consultation 中西醫會診
- Multidisciplinary model 多學科綜合治療模式
- Bidirectional referral 雙向轉介
Practice of Integrative Medicine: To address the unmet needs of our patients

- Communication between TCM and Western physicians 中西醫之間的溝通
- Effective Combo treatment with monitoring of safety and herb-drug interaction 有效的組合治療以及安全性的監測和藥草藥物相互作用
- CM service with good credentials 具有良好的信用憑證中西醫結合治療服務
Practice of Integrative Medicine in Hong Kong: Challenges
中西醫結合在香港實踐的挑戰

Team building 團隊建設
Frontline “buy-in” 前線認同
Clinical governance 临床管治
Quality assurance 質素保證
Risk and safety management 風險與安全管理
Sharing of patient records 病歷共享
Liability 賠償責任
Credentialing 資格認證
Reimbursement 報銷
Affordability 經濟負擔能力
Hong Kong Institute of Integrative Medicine

CUHK-operated Integrative Medical Centre in Prince of Wales Hospital

Clinical platform for research, education and practice of integrating CM with conventional healthcare system
Practice of Integrative Medicine: Strategy

Stage 1: Team building and management 團隊建設與管理
  – Communication, transparency, safety monitoring
  – Risk management, clinical governance and quality assurance

Stage 2: Evidence-based medicine 建立循證醫學
  – Cross validation 交叉驗證 of Western and CM diagnosis
  – Pragmatic trials, outcome and cost-effectiveness research

Stage 3: Algorithm and accreditation 認證
  – Evidence-based, protocol-driven diagnosis and management algorithm supported by pragmatic trials and outcome research
  – Credentialing of training and qualification 培訓和資格認證
Integrative Model for Stroke Rehabilitation

Acute Stroke Unit

 Stroke Rehabilitation Unit

 Multidisciplinary team including CM Physician

 Stroke rehabilitation programme incorporating CM treatment

 Joint consultations and case conferences

 Discharge to Medical Clinic
Integrative Model for Low Back Pain

Referrals to Orthopaedic clinic from primary care

Screening by physiotherapist

1st Joint consultation by Family Physician and CM Physician

Regular CM follow up + on-demand FM visits

2nd Joint consultation in at 4-6 months

Discharge back to Primary Care or TCM Clinic

Early Orthopaedic consultation
Research and Practice of Integrative Medicine: New Directions

- Research 研究
  - Pragmatic trials 務實試驗
  - Big data 大數據
  - Incorporation of CM diagnosis and outcome measures 結合中醫辨証論治
- Practice: Hong Kong Model 實踐
  - Multidisciplinary model 多學科綜合治療模式
  - Bidirectional referral 雙向轉介