Herbal Medicine *Materia Medica* 1

WHMF112

Session 1: Introduction
Session 1

Introduction to Herbal Medicine *Materia Medica 1*

- Outline
- Rationale
- Assessment
- Student Resources

- History of *Materia Medica*
- Therapeutic Actions: A
Introduction
Herbal Medicine *Materia Medica* 1

Subject Outline
Course is 13 sessions: 2 hour lectures & 1 hour tutorial

Content:
- History, philosophy and principles of herbal medicine, evidence sources for herbal medicines, herbal preparations, formulations and dose determination, herbal therapeutic actions (weeks 1-3)
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Subject Outline Content Contd.:

- Herbs that primarily support these systems
  - Respiratory system (weeks 4-6)
  - Immune system (weeks 6-7)
  - Integumentary system (weeks 8-9)
  - Circulatory system (weeks 10-11)
  - Digestive system (weeks 12-13)
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**Assessment 1: Open Book Mid-Semester Exam**

• 1 hour + 5 minutes reading time (short answer & case study) conducted in week 7.

Printed documents & no electronic devices:

• Printed Powerpoint notes, Session 1 Worksheet - Herbal Actions, Session 4 Worksheet - Herbal *Materia Medica* & hand-written or typed notes.

• Set texts

The mid-semester exam will be based loosely around the lectures and tutorials from sessions 1-6.

You will still be expected to have a knowledge of **all** symptoms, conditions, diseases & concepts covered in tutorials 1-6.
Assessment 2: Herbal Report

Develop a report that compares and contrasts the actions and clinical applications of two chosen herbs from one of the five body systems or subsystems studied during the first nine sessions of Herbal Medicine *Materia Medica* 1. The report must summarise the similarities and differences between two herbs with related therapeutic actions and clinical applications in relation to the body system/subsystem in which they were taught.

In correlating the therapeutic actions and clinical applications for each of your two chosen herbs you must draw from information provided in traditional and contemporary texts, and research articles.
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**Assessment 2: Herbal Report contd.**

- *Please watch this video on Academic writing:*
  
  [https://www.youtube.com/watch?v=aVckGxQvGeA&feature=youtu.be](https://www.youtube.com/watch?v=aVckGxQvGeA&feature=youtu.be)

- Assessment Details instruction sheet has live links to Library guide for Herbal medicine, Critical Enquiry libguide, Report Writing resources, and the APA Referencing Guide.

- Session 8: library research tutorial on researching. Requires you to have started your Report.
WHMF112 Assessment

Assessment 3: Final Examination

- 1.5 hour **closed book examination** (exam week)
- Multiple choice, short answer & case study.
- Herbal dosages table (Latin binomials only) will be included in the exam for student reference.
- Content covered is sessions 1-13.

Exam preparation:

- Review all learning material utilized
- Weekly practice review quizzes on the LMS are similar to the multiple choice questions in the final exam.
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Preparation for classes:

- **Pre-read for each session:** lectures are delivered at a level where this is assumed.
- **Tutorials need to be completed:** they add clinical context to the subject & prepare you for the exams as the case studies are loosely based on the tutorial work.
- **Self-study the herbs** (Google, Youtube, texts, journal articles) & complete your Worksheets: Herbal Actions & Herbal *Materia Medica*. 
Rationale for categorization of herbs taught:

- Herbs are presented in the primary system that they support even though they may each support more than one body system.
- This grouping is to introduce you to the herbs for ease of learning and to reduce repetition.
- Individually, the herbs are explored by actions & indications, dose & administration for clinical application (as monographs).
- This information is based on traditional, historical & current research-based evidence.
History of *Materia Medica*
History of *Materia Medica*

*Materia medica* means a collection of the therapeutic properties and applications of substances (in this case herbs) for the management of health.

From most ancient times humans believed plants possessed healing properties.

Every culture has utilized herbs from its environment to support health.

Ancient healers across cultures & continents lived in close connection with nature, understanding its cycles, patterns and law (Nature Wisdom).

(Wood, 1997)
History of *Materia Medica*

Determination of herbs’ health benefits was through observation, trial and error, discussion amongst users, intuition, & direct communication with the “plant spirits”. This knowledge was organized into orderly systems, including early *materia medica*.

Before the earliest reporting, this was passed by word of mouth from generation to generation.

(Potterton, 1983; Wood, 1997; van Wyk & Wink, 2010; Bone & Mills, 2013)
History of *Materia Medica*

All traditional healing systems explored energetic herbalism for the holistic management of health. (Wood, 2004)

The therapeutic properties of a plant are a result of the synergy between:

- Chemical constituents (phytochemicals)
- Nutritional elements (minerals, trace elements, vitamins, amino acids, etc)
- “Subtle energetic properties” of the plant.

This synergy is the “essence” or “sphere of influence” of a plant’s potential to heal.
History of *Materia Medica*

**Ayurvedic Herbalism**

- Over 5,000 years old & explores all aspects of being to maintain health. Songs and poems were transcribed into texts called the *Vedas* around 2000BC. (van Wyk & Wink, 2010)

- Within the Vedas and associated ancient texts the philosophy and principles of Ayurvedic medicine are documented.

- Ayurveda aims at restoring and maintaining harmony within an individual. This is achieved through lifestyle, diet and drug therapy.

- Herbs constitute 70% of the Ayurvedic drug *materia medica* (over 1700 herbs) (Premila, 2006)
History of *Materia Medica*

**Ayurvedic Herbalism**

- Energy management of a person’s wellbeing is defined in terms of *dosha* characteristics.

- Ayurvedic herbalism addresses the imbalances between nervous energy (*vata*), metabolic catabolism (*pitta*) and metabolic anabolism (*kapha*). (Frawley & Lad, 1986)

- Vata-balancing herbs – Withania, Chamomile, Bacopa (calming)

- Pitta-balancing herbs – Mint, Lemongrass, Cardamom (cooling)

- Kapha-balancing herbs – Sage, Thyme, Chilli (metabolically stimulating)
History of *Materia Medica*

Middle Eastern & Arabian Herbalism

- Groundings in Babylonian, Assyrian & Sumerian cultures (2600-4000BC). Existing clay tablets, wall paintings & papyrus scrolls recording medicinal herbs were found in Egyptian tombs & in Ebers Papyrus scrolls (3000-1500BC). Over 700 native Middle Eastern herbs have medicinal properties (van Wyk & Wink, 2010)
- Arabic medicine utilized the four qualities of hot, cold, wet & dry to analyze health and disease. (Wood, 2004)
- Cooling herbs used to reduce heat (E.g. Mallow); warming herbs used to address cold conditions (e.g. Thyme), moistening herbs used for dry conditions (e.g. Aloe).
History of *Materia Medica*

Traditional Chinese Herbal Medicine

- Over 5,000 years old & contextualizes the internal and external elements effects on health.
- Chinese emperors (Shen Nong 2800 BC), Huang Di Nei Jing (Yellow Emperor ~100-200BC) and more recently Li Shizhen (1590 AD) defined the healing system into text. (van Wyk & Wink, 2010)
- Chi/Qi is both material and energy. Herbs are classified in terms of temperature and their curative properties on organs and meridians. (Tierra, 1988)
- Herbs are but one modality of therapy in the Traditional Chinese system of medicine (along with acupuncture, dietetics and exercise therapy).
History of *Materia Medica*

**Greek Herbalism**

- Hippocrates (460-377BC) and Aristotle (384-322BC) incorporated cultural traditions of ancient India and Egypt to influence European herbal healing traditions.
  
  *(van Wyk & Wink, 2010)*

- Earlier medical models that defined four humors (based on interplay of the elements) employed by Hippocrates and fellow Greek physicians. This model emphasized balance and a holistic approach to healing.
  
  *(Griggs, 1981)*
History of *Materia Medica*

**Roman Herbalism**

- Galen (AD 131-199) incorporated Greek and Roman medicinal principles into a medical system while Dioscorides (C1st) began classifying herbs into healing actions and wrote the book *De Materia Medica*. Employed simples and formulas (galenicals) (van Wyk & Wink, 2010; Spitzer, 2012)

- Biological humors had elemental characteristics of temperature (hot/cold) and fluid levels (moist/dry) (Tierra, 1988)
European Herbalism

- Paracelsus (1493-1541) explored the Doctrine of Signatures (like cures like) and began exploring the dosages of herbs to promote healing. Jakob Bohme (1575-1624) expanded on this work.

- 16th century saw much serious study of herbal medicine throughout Europe. Many publications (herbal materia medica) based on field work & empirical understanding.

- This work then went on to influence the work and writings of Nicholas Culpeper (1616-1654) who was the ‘founder of English language herbalism’, and other European herbalists.

(Wood 2008; van Wyk & Wink, 2010; Spitzer, 2012)
History of *Materia Medica*

**North American Herbalism**

- Samuel Thompson (1769-1843) and Wooster Beech (1794-1868) explored the herbal remedies and traditional indigenous practices of North America.
- The Physiomedicalist and Eclectic movements influenced European herbalism and is still evident today.

(van Wyk & Wink, 2010)
History of *Materia Medica*

- Traditional African, Central & South American, and Australian herbalism was diverse and are unique to the various regions and tribes but poorly recorded.
- Herbs from these regions are in common use globally today.  
  
  (van Wyk & Wink, 2010)

- 80% of people worldwide rely on plant medicine for some part of their primary healthcare.  
  (Ekor, 2014)
- 21st century herbal *materia medica* are eclectic, including medicinal plants from around the globe and from numerous ethnomedicine backgrounds.
Therapeutic Actions
Therapeutic Actions

• Through the world-wide evolution of herbal usage common characteristics of herbs and their efficacy for conditions and disease states have been identified.

• One such way of exploring herbs and their effects is to categorize according to commonly defined actions within the body as created by traditional herbalists.

• This is the form of classification system that will be utilized in this unit and throughout the rest of your study at Endeavour.
Therapeutic Actions

• The next three sessions, in part will be dedicated to exploring and understanding these herbal actions.
• For ease of reference these actions have been arranged in alphabetical order.
• The Session 1 Worksheet has space for you to define the action in your own words, and then list the system where this action would work.
• Note, some actions are specific to some systems but others will work in many systems highlighting the versatility of herbs.
Actions Activity

• Open the WHMF112_SN01_ Herbal Actions Worksheet
• As your lecturer discusses each action fill in the worksheet. Session 1 covers: Actions: A.

• Create a memory key (something that you uniquely identify with the action), and give examples of herbs that present with this action.

• Discuss your findings with the group.
Therapeutic Actions: A’s
Therapeutic Actions

Adaptogenic

- Stress-response modifiers that increase an organism’s nonspecific resistance to stress by increasing its ability to adapt and survive.  
  (Panossian, 2017)

- Beneficial for depleted adrenal cortex stress hormones.  
  (Mills, 1985)

- Stressors may include physical, environmental, emotional or biological influences.  
  (Hechtman, 2018)
Therapeutic Actions

Adrenal Tonic

• Support and reinvigorate the action of the adrenal glands. 
  (Hechtman, 2018)
• “Improves the tone, histology, and function of the adrenal glands (especially the cortex)” 
  (Bone, 2003 p. 481)
• Supports & improves both the function and structure of the adrenal glands.
Adaptogenics and Adrenal Tonics

With consideration to the Naturopathic Therapeutic Order, which level/s of intervention would adaptogenic herbs and adrenal tonics most likely relate to?

Therapeutic Order

1. Establish the conditions for health
2. Stimulate the *vis medicatrix naturae*
3. Tonify weakened systems
4. Correct structural integrity
5. Address pathology
6. Suppress/surgically remove pathology
Therapeutic Actions

Alterative / Depurative

• Support & enhance the major channels of elimination (emunctories) in the body.
• Improve detoxification & aid elimination to reduce the accumulation of metabolic wastes within tissues. (Bone, 2003)
• Removes toxins, mucus & mucopolysaccharides from the lymph & blood. (Wood, 2008)

Where do alteratives generally sit within the Therapeutic Order?
Therapeutic Actions

Analgesic/ Anodyne

• Reduces or relieves the sensation of pain.
  
  (Hoffmann, 2003)

• Effect occurs thorough altering the sensations of the nerves, spinal cord and / or the brain.
  
  (Hechtman, 2018)
Therapeutic Actions

Antacid

• A substance that neutralizes acid in the gastrointestinal tract.
  (Hoffmann, 2003)

• Regulates the production of hydrochloric acid (HCl\(^-\)) in the stomach. This will lower the overall acidity within the gastrointestinal tract.
  (Hechtman, 2018)
Therapeutic Actions

Anthelmintic

• Greek *anti* (against) *helmins* (worms). Evidence of this being used in Egyptian and Roman cultures.
  
  (Hechtman, 2018)

• Kills or assists with the eradication of intestinal worms  
  
  (Bone, 2003)
Therapeutic Actions

Anti-allergic

• Down-regulates the allergic response by stabilizing the membranes of mast cells.  
  (Bone, 2003)

• This in turn may reduce the secretion of histamine.  
  (Hechtman, 2018)
Therapeutic Actions

Anti-bacterial

- Destroys bacteria (bactericidal) or inhibits the growth of bacteria (bacteriostatic).

  (Bone & Mills, 2013)

- This action was not coined until the 19th century when the microscope was invented.

  (Hechtman, 2018)
Therapeutic Actions

Anti-catarrhal / Mucolytic

• Anti-catarrhal: reduces the formation of excessive mucus or phlegm.
  (Bone & Mills, 2013)

• Mucolytic: breaks up and removes viscous mucus so it is easier to expel
  (Hoffmann, 2003)
Therapeutic Actions

Anti-depressant/Thymoleptic

- Antidepressant: aids in alleviating depression.  
  (Bone & Mills, 2013)
- Traditional terminology would refer to depression as ‘melancholy’.  
  (Hechtman, 2018)
- Thymoleptic: a substance that elevates mood – often an antidepressant.  
  (Bone, 2003)
Therapeutic Actions

Anti-emetic

- Prevents or reduces nausea & vomiting.
  (Braun & Cohen, 2010; Bone & Mills, 2013)
- Usually herbs with a high volatile oil content (aromatics) making them antispasmodic to the smooth muscle of the digestive tract
  (Hechtman, 2018)

(Kohler, F.E. (1914), Zingiber officinale Retrieved 7th April, 2014 from http://commons.wikimedia.org/wiki/File:Zingiber_officinale_-_K%C3%B6hler%E2%80%93Medizinal-Pflanzen-146.jpg)
Therapeutic Actions

Anti-hyperhydrotic / Refrigerant

- Anti-hyperhydrotic: reduces excessive sweating.  
  (Bone & Mills, 2013)
- Refrigerant: Locally cools, lowers body temperature and may reduce excessive thirst sensations.  
  (Fisher, 2018)

Therapeutic Actions

Anti-inflammatory

• Reduces inflammation or the severity of inflammatory diseases. (Mills, 1985)

• The body’s normal response to infection / damage is inflammation.

• Anti-inflammatory herbs are sometimes used to contain or limit the inflammatory process to avoid long-term tissue damage.

Therapeutic Actions

Anti-lithic

- Reduces the formation of stones (calculi) within the urinary tract or gall bladder

(Fisher, 2018; Bone & Mills, 2013)
Anti-microbial/ Antiseptic

- Work directly on destroying micro-organisms or indirectly via enhancing the immune system response to the presence of these agents.
- Micro-organisms can be bacteria, fungi, parasites, viruses, or protozoa

(Hoffmann, 2003; Bone & Mills, 2013)
Therapeutic Actions

Anti-oxidant

• Protect or minimize damage to cells by oxidation and free radical damage.
  (van Wyk & Wink, 2010)

• Oxidative damage to cells is indicated as one of the primary factors in the generation of many diseases.
  (Fisher, 2018)
Therapeutic Actions

Anti-platelet

• Reduces platelet aggregation within the blood.
• This reduces thrombus formation and increases bleeding time.

(Bone & Mills, 2013)
• Used therapeutically to enhance cardiovascular health.

Therapeutic Actions

Anti-pruritic

- A substance that relieves or prevents itching.

(Braun & Cohen, 2015)

Therapeutic Actions

Anti-pyretic / Febrifuge

• Used to reduce or prevent fever.

(Bone & Mills, 2013)
Therapeutic Actions

Anti-rheumatic

• A substance that prevents or relieves rheumatic symptoms. (van Wyk & Wink, 2004)

• This action characterizes a group of actions that specifically support this disease state. These include anti-inflammatory, analgesic, alterative actions. (Hoffmann, 2003)

Therapeutic Actions

Antitussive

• Reduces coughing by suppressing the cough reflex.  
  (Hechtman, 2018)

• Most often herbs containing cyanogenic glycoside constituents act to suppress the cough reflex.  
  (Mills, 1991)
Therapeutic Actions

Antiviral

• Inhibits the growth, destroys or increases the immune systems response to the presence of a virus.

• Modern action given the recent understanding of viruses (since the 18th Century).

(Hechtman, 2018)
Therapeutic Actions

Anxiolytic

- Aids in reducing or treating anxiety states.

(Braun & Cohen, 2015; Hechtman, 2018)

Aromatic Digestive

- Herbs high in volatile oils that are pleasant in smell and/or taste (pungent or spicy) and are warming.
- These herbs reduce spasm and increase circulation (warming) to the digestive tract

(Tierra, 1988; Wood, 2008; Bone & Mills, 2013)
**Therapeutic Actions**

**Astringent**

- Contracts tissues thereby reducing excretions & discharges, creating a short-term barrier to inflammation and irritation.  
  (Mills, 1985; Fisher, 2018)

- Localized action of tannins binding to proteins.  
  (Hoffmann, 2003)
References


References


Tutorial: Session 1
Activity

- Using the internet, choose a piece of information relating to a herb’s purported health benefits. It may be current or it can be an historical piece.
- Consider the source of the information:
  - Where did you locate it?
  - What is its intended audience?
  - What is the purpose of the information?
  - What do you think are the sources of evidence for this information?
Recommended Readings

• Video: A history of herbal medicine, Medical herbalism
  https://www.youtube.com/watch?v=S8SHvgM1bMc

• Mountain rose blog 2013, Understanding & Identifying Basic Herbal Actions. Viewed 15/12/2015
  http://mountainroseblog.com/understanding-herbal-actions/

• American botanical council, 2013 Terminology Viewed 15/12/2015
  http://abc.herbalgram.org/site/PageServer?pagename=Terminology

• Bone, K., & Mills, S. (2013). Principles & Practice of Phytotherapy (2nd Ed) pp. 3-15
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