

## Complementary and Alternative Medicine (CAM) Integrative Medicine

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## Contents of the lecture

- CAM/IM definition and history
- Categories
- Special considerations
- Useful links

## NCCAM USA

„CAM is a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine”

<https://nccih.nih.gov>

## WHO;2004:xiii

„CAM refers to a broad set of health care practices that are not part of a country's own tradition and not integrated into the dominant health care system. Other terms sometimes used to describe these health care practices include „natural medicine”, „non-conventional medicine” and „holistic medicine”.

Ernst: Oxford Handbook of Complementary Medicine, OUP 2008

Zollman C, Vickers A. What is complementary medicine? *BMJ* 1999;319:693-6

„Complementary medicine refers to a group of therapeutic and diagnostic disciplines that exist largely outside the institutions where conventional health care is taught and provided”

## Cochrane Collaboration

„CAM is a broad domain of healing resources that encompasses all health systems, modalities and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health systems of a particular society or culture in a given historical period”

Ernst: Oxford Handbook of Complementary Medicine, OUP 2008

- diverse health care systems, practices, and products
- not presently part of conventional medicine

NCCAM

- broad set of health care practices
- not part of a country's own tradition
- not integrated into the dominant health care system

WHO

- broad domain of healing
- other than those intrinsic to the politically dominant health systems of a particular society or culture in a given historical period"

Cochrane Collaboration

- therapeutic and diagnostic disciplines
- outside the healthcare institutions

BMJ

### Definition – Oxford Handbook of Complementary Medicine 2008

- NOT (provided in routine health care, taught to medical students, scientifically proven)
- Umbrella term – a group of therapeutical approaches with certain similar characteristics.

Ernst E, Resch K L, Mills S *et al.*  
Complementary medicine – a definition.  
*Br J Gen Pract* 1995;**309**: 107-11

„Complementary medicine is diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole, satisfying a demand not met by orthodoxy, or diversifying the conceptual framework of medicine.“

1982  
150th anniversary of the BMA

"By concentrating on smaller and smaller fragments of the body, modern medicine perhaps loses sight of the patient as a whole human being, and by reducing health to mechanical functioning it is no longer able to deal with the phenomenon of healing"



### Reductionalism versus Holism

- Isolable disease categories
- Symptom-underlying mechanism
- Analytic logic
- Either-or model

- Holistic approach
- Focuses on the relationship between variables
- Coexisting ideas and methods

### One year prevalence of CAM use in general population samples

Country	Year of sampling	Sample n	Prevalence %
Australia	1993	Random 3004	48.5
Canada	1995	Repr 17626	15
Finland	1982	Random 1618	23
France	1985	Repr 1000	49
Germany	2002	Repr 1750	62.3
Hungary	1999	2357	13
Israel	2000	Repr 2505	10
Italy	1997-99	Repr 70898	15.6
Japan	2001	Random 1000	76
Singapore	2002	Matching 648	76
UK	2001	Repr 1794	28
US	2002	Repr 31044	62 (incl prayer)

Oxford Handbook of Complementary Medicine 2008

## Reasons

- Dissatisfaction with the ability of conventional medicine to treat chronic illness
- Dissatisfaction with the medical encounter (brief and disempowering)
- Dissatisfaction with the reductionist, mechanical model of medicine

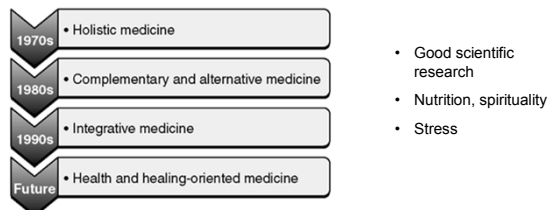
Hyland ME, Lewith GT, Westoby C. Developing a measure of attitudes: the holistic complementary and alternative medicine questionnaire. *Complementary Therapies in Medicine* (2003), 11, 33-38

## Users

- More educated, poorer health status, holistic philosophical orientation to health and life (mind, body, spirit in health)
- Internal belief in health control (self empowerment, ability to take responsibility for personal health and modify lifestyle)
- Holistic, integrative model of health

Hyland ME, Lewith GT, Westoby C. Developing a measure of attitudes: the holistic complementary and alternative medicine questionnaire. *Complementary Therapies in Medicine* (2003), 11, 33-38

## David Rakel: Integrative Medicine, Elsevier 2012



## Integrated/Integrative medicine

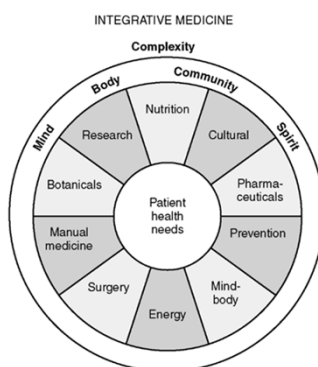
Comprise the best of both systems by combining conventional with CAM treatment.

(Oxford handbook of CAM, OUP 2008)

Healing-oriented medicine that takes account of

- The whole person (body, mind, spirit)
- All aspects of lifestyles
- Emphasizes the therapeutic relationship
- Makes use of all appropriate therapies (conventional, alternative)

(Rakel: Integrative Medicine; Elsevier 2012)



- Deterioration of patient-provider relationship
- Overuse of technology
- Inability of the medical system to treat chronic disease adequately

## CAM categories

- Mind-body interventions
- Natural products (herbs, vitamins, probiotics)
- Other Complementary Health Approaches

US National Centre for Complementary and Integrative Health

## Mind-body interventions

- Meditation, prayer, mental healing, art, music, dance
- Movement therapies
- Spinal manipulation
- Relaxation techniques
- Tai chi, Qi gong, Yoga

## Yoga

- Postural exercises, breathing control, meditation
- Believed to increase the body's vital energy, reduction of sympathetic drive, may increase lung capacity, wellbeing



## Yoga EBM

Likely effective as an adjuvant treatment for normalizing several cardiovascular risk factors including hypertension and for depression

Risks:

Contraindication: pregnancy (extreme posture), mental illness (meditation)

Precautions/warnings: musculoskeletal injuries through overstretching joints.

## Yoga EBM

Adverse effects: drowsiness

Interactions: possibility of additive effects, e.g. with antihypertensives.

## Tai chi



A system of movements and postures used to enhance mental and physical health

## Tai chi EBM

Seems helpful in rheumatoid arthritis, hypertension, physical performance of the elderly

Risks:

Contraindications: based on common sense (e.g. severe osteoporosis, severe heart conditions, acute back pain, knee problems, sprains and fractures)

Usually it can be safely practiced during pregnancy and lactation

## Tai chi EBM

Precautions/warnings: before starting tai chi older individuals should be carefully examined for any of the above or other contraindications.

Adverse effects: rare, but may include delayed-onset muscle soreness, pulled ligaments or ankle sprains

## Music therapy

The use of music by an accredited professional to achieve therapeutic goals



**Receptive music:**  
listening to music played by the therapist or recorded music (e.g. pain management)

**Active music:** patients are involved in the music-making (e.g. mental illness)

## Concept

- Reward and motivation circuitry may be activated
- Secondary physiological changes
- Relaxation effects on vital functions: breath, respiratory rate, blood pressure, cardiac output
- Analgesic and anxiolytic effects – lowering of stress hormone production

## Conclusions

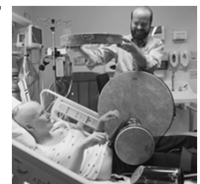
As an adjunct therapy:

Positive effects on anxiety and stress, psychopathological disorders (behaviour and developmental),

Might improve: pain symptoms, schizophrenia, mood in a range of conditions

No risks have been reported

Risk-benefit balance is positive or likely to be positive on the above mentioned



## Relaxation

Techniques for eliciting the „relaxation response“ of the autonomic nervous system

- Progressive muscle relaxation — decreased oxygen consumption, heart rate, respiration, skeletal muscle activity, normalized blood support to the muscles
- Others — passive muscle relaxation, refocusing, breathing control
- Imagery-based relaxation



## Relaxation EBM

**Beneficial:**

•Anxiety (panic disorder, agoraphobia, cancer),

•Insomnia,

•Nausea/vomiting (chemotherapy-induced)



**Likely to be beneficial:**

- Cancer, palliation
- Depression
- Headache (positive effect on pain)
- Hypertension
- Ischaemic heart disease
- Low back pain
- Menopause
- Migraine
- Rheumatoid arthritis

## Relaxation EBM

### Risks

Contraindications: schizophrenic or actively psychotic patients

Precautions/warnings: techniques requiring inward focusing may intensify depressed mood

Adverse effects: none known

## Manipulated and body-based methods

- Based on manipulation and/or movement of one or more parts of the body.
- Chiropractic manipulation, osteopathic manipulation, massage

## Chiropractic

- Subluxation of the vertebrae affects human health
- Chiropractors frequently use vertebral manipulation
- Treat mainly musculoskeletal problems



## Chiropractic EBM

- Back pain – probably effective, not superior to exercise therapy
- Serious risks exist especially with cervical manipulation\*
- Risk-benefit balance marginally positive for back pain, for all other condition it is not

\* Whedon JM, Song Y, Mackenzie TA, et al. Risk of stroke after chiropractic spinal manipulation in Medicare B beneficiaries aged 66 to 99 years with neck pain. *Journal of Manipulative and Physiological Therapeutics*. 2015;38(2):93-101.

1,1million people aged 66-99. Incidence of VBS was 1,2/1000 chiropractic vs 1,4/100 primary care visits on 7th day; 5,1/1000 chiropractic vs 2,8/1000 primary care on 30th day

## Risks

Contraindications: osteoporosis, bleeding disorders, inflammatory or malignant diseases of the spine.

Precautions/warnings: patients with arteriosclerotic diseases of vertebral arteries

Adverse effects: 50% - mild adverse effects. Cervical manipulation – stroke, arterial dissection

Interactions: none known

## Osteopathy



- Manual therapy  
soft tissue manipulation  
joint manipulation/mobilization
- Restore malalignment to optimize blood and lymph flow and organ functions
- Less forceful than chiropractic

## Osteopathy EBM

Effectiveness: Likely to be effective in acute/subacute back pain and shoulder pain

Risks:

Contraindications: osteoporosis, neoplasms and infections of the bones, bleeding disorders

Adverse effects: vertebral artery dissection

Precautions and interactions are not known

## Massage

- Soft tissue manipulation of whole body areas
- Manual techniques: pressure, traction

Effects:

- Blood and lymph circulation is enhanced – increased oxygen supply
- Increased muscular tension can be affected beneficially



## Massage EBM

Beneficial in anxiety,

Likely to be beneficial: AIDS/HIV (quality of life), constipation, depression, labour pain, back pain, musculoskeletal pain

## Massage EBM

Risks:

Containdications: phlebitis, deep vein thrombosis, burns, skin infections, eczema, open wounds, bone fractures, advanced osteoporosis

Precautions/warnings: cancer, myocardial infarction, osteoporosis, pregnancy

Adverse effects: rare: bone fractures, liver rupture

Interactions: possible with oils used for massage

## Energy therapies

- Use energy fields.
- Biofield therapies affect energy fields that purportedly surround and penetrate the human body
- Qi Gong Reiki, Therapeutic Touch
- Bioelectromagnetic-based therapies use electromagnetic fields such as pulsed fields, magnetic fields

## Natural products

- Use substances found in nature – herbs, foods, vitamins
- Herbal products, dietary supplements



## Naturopathy

Living organisms has inherent self-organizing and healing process (establishes, maintains and restores health) with the healing power of nature.

Naturopathic physician supports, facilitates and augments this process by identifying and removing obstacles to health and by supporting the creation of a healthy internal and external environment.



Diet, physical exercise, physiotherapy, hydrotherapy, herbal medicine etc

## Herbal medicine

The medicinal use of preparation that contain exclusively plant material

- Phytomedicine (Western herbalism)  
Herbal extracts – plant material with pharmacologically active constituents
- Chinese herbal medicine
- Ayurveda
- Kampo

## Risks

- Plant extracts may have powerful pharmacological effects – risk of adverse effects is greater than most other complementary therapies.
- Interactions: different herbal preparations, conventional drugs
- Patients should be asked about self-prescription drug use

## Links

- Basch EM, Ulbricht CE (eds): Herb and Supplement Handbook: The Clinical Bottom Line. St Louis, MO: Elsevier Mosby, 2005
- Capasso F, Gaginella TS, Grandolini G, Izzo AA. Phytotherapy: A Quick reference to Herbal Medicine. Berlin: Springer, 2003
- <http://www.mskcc.org/mskcc/html/11570.cfm>  
Memorial Sloan-Kettering Cancer Center – About herbs, botanical and other products

## Alternative medical systems

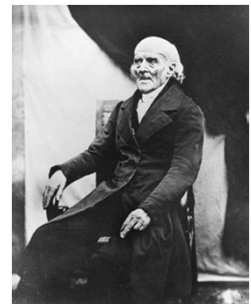
Homeopathic medicine  
Traditional Chinese Medicine,  
Ayurveda

Complete systems of theory and practice

## Homeopathy

„Like cures like” – certain syndroms caused by a remedy can be used to treat such symptoms in patients

Serial dilution and succussion (potentiation) makes a remedy more effective





## Homeopathy - Treatment



- Elaborate and extensive history taking
- To find the remedy best fits the overall picture presented by the patient
- Readjust prescription as the condition changes
- Little emphasis on physical examination
- Usually weekly consultations – may last for months in chronic conditions

## Homeopathy EBM

**Evidence:** effectiveness is encouraging for chronic fatigue syndrome

**Risks:**

- *Contraindications:* none known
- *Precautions/warnings:* none known
- *Interactions:* none known
- *Adverse effects:* cannot cause pharmacological adverse effects (diluted beyond Avogadro's number) – „Homeopathic aggravation“ – 20% of patients

## History

>2000 years experience: Traditional Chinese Medicine, Ayurvedic Medicine

- Health is harmony between mind, body and spirit
- Disharmony causes disease
- Doctors facilitate the healing process

## Traditional Chinese Medicine



Diagnostic and therapeutic system based on complex theories

- Acupuncture
- Herbal medicines
- Massage (tui-na)
- Physical exercise (tai-chi)
- diet

## Acupuncture

- Insertion of needles into the skin and underlying tissues at acupuncture points
- Special diagnostic methods
- Prevention and therapy



## Acupuncture EBM

**Evidence:** several indications (nausea, vomiting, neck pain, osteoarthritis of the knee, back pain, dental pain) **are supported by good evidence**

**Risks:**

**Contraindications:** severe bleeding disorders (needle acupuncture), first trimester of pregnancy, epilepsy

## Acupuncture EBM

Precautions/warnings: asepsis is mandatory, electro-acupuncture for patients with pacemakers, children

Adverse effects: drowsiness, bleeding, bruising, pain during needle insertion, aggravation of presenting symptom, pneumothorax, infections

Interaction: cardiac pacemaker

## Ayurveda

- Knowledge of a long life
- Promote the person inherent self-healing abilities
- Herbal remedies, psychological approaches, detoxification procedures, relaxation techniques, physical exercises



**TABLE 1-1** Simple Rules for the Twenty-First Century Health Care System

From Institute of Medicine, Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, D.C.: National Academy Press; 2001.

Old rule	New rule
Care is based primarily on visits.	Care is based on continuous healing relationships.
Professional autonomy drives variability.	Care is customized according to patient's needs and values.
Professionals control care.	Patient is the source of control.
Information is a record.	Knowledge is shared, and information flows freely.
Decision making is based on training and experience.	Decision making is evidence based.
"Do no harm" is an individual responsibility.	Safety is a system priority.
Secrecy is necessary.	Transparency is necessary.
The system reacts to needs.	Needs are anticipated.
Cost reduction is sought.	Waste is continuously decreased.
Preference is given to professional roles rather than the system.	Cooperation among clinicians is a priority.

Rakel: Integrative medicine, Elsevier 2012



## Information resources

- Ernst E, Pittler MH, Wider B and Boddy K **Oxford Handbook of Complementary Medicine** Oxford University Press, 2008
- MacPherson H, Hammerschlag R, Lewith G, Schnyer R (eds) **Acupuncture Research Strategies for Establishing an Evidence Base**, Churchill Livingstone 2007

## Useful links

- Complementary and Natural Healthcare Council [http://www.fih.org.uk/what\\_we\\_do/regulation/index.html](http://www.fih.org.uk/what_we_do/regulation/index.html)
- CAM on PubMed <https://nccih.nih.gov/research/camonpubmed>
- BBC Open University <http://www.open2.net/alternativemedicine/index.html>

Thank you for your attention!

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