Integrative Geriatrics: Evidence Based Modalities to Advance Older Adult Health

Mikhail Kogan, MD
Medical Director
GW Center for Integrative Medicine
Associate Director
Geriatrics and Integrative Medicine fellowships
George Washington University

Disclosures
- Co-owner and Medical Director of GW Center for Integrative Medicine.
- I use number of references from Integrative Geriatrics Textbook that I edited
- Paid consultant - The DC Center for Rational Prescribing (DCRX)

Successful aging is far beyond being healthy and vibrant. It is rectifying internal conflicts, paradoxes, and continuous redefining life’s meaning.

Integrative Geriatrics - definition

Is a new field of medicine that advocates for a whole-person, patient-centered, primarily non-pharmacological approach to medical care of the elderly. The practice of integrative geriatrics is rooted in lifestyle interventions, such as nutrition, movement therapies, and mind-body and spirituality approaches, that allow patients to have different path to their healthcare - one that utilizes pharmaceuticals and invasive procedures only when safer integrative approaches are not available or not effective.
Aging around the World
Average vs Exceptions
Why is it so important?

Sardinia
Canada
USA

Sad Average Perception
THE CAT IN THE HAT
On Aging
I cannot see.
I cannot pee.
I cannot chew.
Oh, my god, what will I do?
My memory's going.
My nose is plugged.
I talk like this.
My mood is good.
What year is it?
My body's dropping,
More trouble pooping.
The Golden Years
Have come at last.
The Golden Years
Can last for eee.

Chronic Conditions

Polypharmacy

Exhibit 1
More Older Adults in U.S. Have Multiple Chronic Conditions

Exhibit 2
Percentage of prescription drugs used in the past month, by age, United States, 2007–2008

*Estimates in this table are subject to sampling variability (standard errors).
Complex Comorbidity plus Lack of Non-Pharmacological Treatment Options = 4th Leading Cause of Death in US as of 2014
2.74 million serious adverse reactions/year and 128,000 deaths

https://ethics.harvard.edu/blog/new-prescription-drugs-major-health-risk-few-offsetting-advantages

So what about lifestyle interventions for older adult?

“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”

Concept of Blue Zones

https://www.youtube.com/watch?v=CpC2ODebCOE
The “Blue Zones” are communities where common elements of lifestyle, diet, and outlook have led to a superior quality and length of life in the elderly populations.

Areas of highest concentration of CENTENARIANS

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**Blue Zones – Universal Similarities**

- Move Naturally a lot and daily
- Balance between rest, activity, lots of sleep, following daily rhythm, daily light exposure
- Regular intermittent fasting or continuous caloric restriction
- All diets are micronutrients and phytonutrients dense and low in glycemic index
- Food As Medicine
- Developed sense of belonging or meaning in life within social context

https://www.bluezones.com/

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**Blue Zones – Power 9**

1. Move Naturally a lot and daily
2. Right Outlook
   - Know your purpose
   - Downshift: work less, slow down, take vacations, rest a lot
3. Eat Wisely
   - Eat until 80% full
   - More veggies, less meat, no processed foods
   - Drink a glass of wine every day
4. Belong
   - Create healthy social networks
   - Spirituality
   - Prioritize Family

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So can we implement some lifestyle changes for ALL of our patients?
Selected Clinical Pearls

- Back Pain – New ACP Guideline
- Prophylactic use of Probiotics
- Get your older adults off PPIs – Why and How?
- Frequent UTIs – do we have any antibiotic alternatives?
- Is there an alternative osteoporosis/osteopenia treatment?

Chronic Back Pain
April 4, 2017 New ACP Guidelines

- Recommendation 1: Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients should select nonpharmacologic treatment with superficial heat (moderate-quality evidence), massage, acupuncture, or spinal manipulation (low-quality evidence). If pharmacologic treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation)

- Recommendation 2: For patients with chronic low back pain, clinicians and patients should initially select nonpharmacologic treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate-quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence). (Grade: strong recommendation)

Integrative Non Pharmacological Approaches

- Mind Body: MBSR, Biofeedback
- Nutritional: Anti-inflammatory Diet, Supplements
- Body Body Based: Massage, PT, Osteopathy, Chiro
- Energy Based: Reiki, Tai Chi, Acupuncture
- Movement Based: Alexander, Yoga
- Interventional: Acupuncture, Trigger Points Injections
Challenges

- Cost for patients on fixed income
- Medicare covers PT, Chiro, Osteopathy
- Massage, Cranial
- Yoga and Tai Chi can be covered as THERAPEUTIC exercise under PT/OT
- Small Payments, draconian rules of documentation and frequent audits.
- Lack of coverage for many well evidenced approaches
  - Acupuncture
  - Alexander
  - Tai Chi/Yoga
- No coverage for nutritionists (except if end stage Renal Disease or Diabetes)
- Coordination of care by MD is covered but under very strict guidelines that are not defined for integrative providers.

Medical Shared Group is one possible solution - AIM Health experience

Case - peripheral neuropathy in elderly

- 76 year old frail woman with Diabetes Mellitus related peripheral neuropathy and chronic kidney disease admitted to the hospital ICU with severe delirium.
- 7 days before admission dose of Gabapentin (Neurontin) for chronic neuropathy was increased to 300mg every 8 hours.
- Geriatrics consult was called. Gabapentin was rapidly tapered down and delirium slowly resolved. Patient followed at GW Center for Integrative Medicine.

Outpatient treatment:

- Weekly acupuncture
- Finished Gabapentin taper
- Combination of Alpha Lipoic Acid, Benfotiamine, and GLA (Evening Primrose Oil)
- Medical Cannabis Recommendation – sublingual tincture as needed

Case – 12 weeks follow up

- "Well I did get very high few times, reminded me of my hippie years. After few weeks I figured out how to dose it just right."
- "I have no idea if supplements are doing anything but acupuncture has been somewhat helpful."
- "I have to choose pot over acupuncture, all these costs add up."
- "Can’t you write me some letter for Medicare? I mean why all your effective treatments are not covered, while the medication that almost killed me is?"
- "Oh, and my primary care doctor wants you to call him. He thinks I should not use pot as it is very dangerous at my age and he wants to put me on another medication instead, but I don’t think so.”

The New York Times

Older Americans Are Flocking to Medical Marijuana

CBD, terpenes and oil — and sometimes old-fashioned herbs — are increasingly common in senior homes. Doctors warn that popularity has outstripped scientific evidence.

Co-authors of a recent article on medical marijuana and older adults in the Journal of the American Geriatrics Society, they support legalization for medical use. They hope the federal government will reclassify cannabis ("a huge undertaking," Dr. Briscoe admitted), reducing obstacles to much-needed research.
Cannabis and Chronic Pain

Cannabis in painful HIV-associated sensory neuropathy
A randomized placebo-controlled trial

Methodology:
To determine the effect of cannabis on the neuropathic pain of HIV-associated sensory neuropathy and in an experimental pain model. Participants were randomly assigned to receive either cannabis or placebo, and pain was assessed using the Neuropathic Pain Symptom Inventory (NPSI) and the Brief Pain Inventory (BPI). The experimental model was developed in collaboration with the National Institute of Neurological Disorders and Stroke (NINDS). Pain thresholds were assessed using a von Frey monofilament and a heat stimulus. Pain scores were compared between the cannabis and placebo groups using a t-test.

Results:
Neurology RCT

Abrams 2007

Experimental Pain Model

Pain Model Timeline: Days 1 and 5

Abbildung: www.doh.dc.gov
CONCLUSIONS FOR: THERAPEUTIC EFFECTS

There is conclusive or substantial evidence that cannabis or cannabinoids are effective for:
- For the treatment of chronic pain in adults (cannabis) (4-1)
- Antinecrosis in the treatment of chemotherapy-induced nausea and vomiting (cannabis/tetrahydrocannabinol) (4-2)
- For improving pain-related multiple sclerosis spasticity symptoms (cannabis/cannabinoids) (4-2a)

There is moderate evidence that cannabis or cannabinoids are effective for:
- Improving short-term sleep outcomes in individuals with sleep disturbance associated with obstructive sleep apnea syndrome, fibromyalgia, chronic pain, and multiple sclerosis (cannabinoids, primarily nabilone) (4-10)

There is limited evidence that cannabis or cannabinoids are effective for:
- Increasing appetite and decreasing weight loss associated with HIV/AIDS (cannabis and oral cannabinoids) (4-4a)
- Improving clinician-measured multiple sclerosis spasticity symptoms (oral cannabinoids) (4-7a)
- Improving symptoms of Tourette syndrome (THC capsules) (4-8)
- Improving anxiety symptoms, as assessed by a public speaking task, in individuals with social anxiety disorder (cannabis) (4-17)
- Improving symptoms of posttraumatic stress disorder ( Abilities 2011; 15, 153. For a single, small, fair quality trial) (4-20)

There is limited evidence of a statistical association between cannabinoids and:
- Better outcomes (=, mortality, disability) after a traumatic brain injury or intracerebral hemorrhage (4-12)

There is limited evidence that cannabis or cannabinoids are ineffective for:
- Improving symptoms associated with dementia (cannabinoids) (4-15)
- Improving intravascular pressure associated with glaucoma (cannabinoids) (4-19)
- Reducing depressive symptoms in individuals with chronic pain or multiple sclerosis (nabilone, dronabinol, and nabilone) (4-18)

We found there was about a 25 percent lower rate of prescription opioid overdose deaths on average after implementation of a medical marijuana law." - lead study author - Marcus Bachhuber, MD
States with active dispensaries saw 3.742 million fewer daily doses filled (95% CI, −6.289 to −1.194); states with home cultivation only MCLs saw 1.792 million fewer filled daily doses (95% CI, −3.532 to −0.052).
Probiotics as supplements

- Pick 2-3 favorite probiotics that can be obtained from different places
- Pick one brand that includes S. boulardii
- Pick non refrigerated ones for traveling
- Average monthly probiotics cost is now $30-50
- Cost – select on higher and lower end
- Dose 10+ billion CFUs/capsule twice/day
- As many different strains as possible

New Mantra? – No hand should ever write prescription for Antibiotics without Probiotics

- Make sure patients know how to handle them – refrigerate
- Know probiotics rich foods – and be able to recommend discuss with patients
- Kefir – highest probiotic concentration from common US foods
- Yogurt, Kombucha, Kim Chi
- Length of Intensive Probiotic course is not clear. Personally I recommend entire length of antibiotics plus at least 4 more weeks.
Get your older adults off PPIs!!!

- Proton Pump Inhibitors drugs are heavily over prescribed
- Short courses are safe and often very effective for ulcers, acid reflux, acute GI bleeding, etc.
- Long term PPI use is very concerning due to increased risks
- Changes in Microbiome - changes in immune system – current hot research topic
- B12 and Magnesium Deficiency
- Falls and Fractures
- Pneumonia
- C. Diff Colitis
- Kidney Failure

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How to do it? Case

- 68 year old male with HTN, Chronic Fatigue and muscle aches, high cholesterol, Acid Reflux referred by his wife
- Healthy looking, fun to talk to, expresses concerns about decreasing functional status, hard time doing exercises, loves long distance running but dropped speed nearly 30% and still can’t run for more than 30min. Previously regular half marathons (2.5 hours)
- Non stressful retirement, financial security, strong family support.
-Excellent diet and good sleep

- Meds/Supplements – for over a decade
  - Nexium 40mg, HCTZ 25mg, Lisinopril 20mg, Crestor 10mg, Tylenol PRN
  - Fish Oil, Multivitamin, CuZn, Vitamin D3 2000 units
  - Exam – nothing to report. Labs – B12 300, Ferritin 65 wnl, RBC Magnesium 4, TSH 0.8, CBC, CMP wnl, Vitamin D 25 OH 40
  - Total Cholesterol 165 TG 119 HDL 52 LDL 98 VLDL 15

WHAT IS YOUR PLAN? Let’s talk

Start the following

- Aloe – as Juice or Capsules. Juice mix with water (cuts cost and easier to drink)
- Okra – add to the diet
- Deglycyrrhizinated licorice (DGL) before each meal, could also do after each meal and when start getting any acid reflux – MAKE SURE DGL is very high potency.
- If diet is poor and stress – address that first – OFTEN THIS DOES IT!
  - DO NOT ASSUME GI DOCS recommended diet change/stress reduction

Case continue

- Follow above protocol plus
  - No eating after BPM
  - Coffee down to 1 cup/day, substitute with Matcha green tea
  - Hold Chocolate for 3 month
  - Cut simple carbs (sugar and bread) – loves pasta

- Added topical Magnesium daily before each run. Changed Multivitamin to better quality with higher amount of B vitamins and in activated (methylated) form
- Electrolyte capsules 1-2 before each exercise
- Monitor Blood Pressure report when decreases under 100 systolic
  - 4 weeks in get call from patient BP dropped – stop HCTZ
  - 1 week later BP still under 100 systolic – stop Lisinopril
Case – 3 months follow up

- Off Nexium, Lisinopril, HCTZ
- BPs are steady under 140 systolic
- Able to run 1 hour each time, but still get’s exhausted
- Pain and fatigue is 50% better
- Looked through all records, no h/o CVA/MI, non smoker
- Stop Aspirin and Crestor

Case – 6 months follow up

- Off all meds
- Pain and Fatigue complete resolved
- Got his runs back to almost 2 hours and scheduled half marathon in months
- Total Cholesterol 233 TG 98 HDL 71 LDL 142 VLDL 16
- What happened???
  - Magnesium Deficiency was driving HTN, fatigue, and muscle cramps
  - Crestor may have contributed to Muscle pain
  - B12 deficiency/insufficiency was driving pain and fatigue
  - Increased exercise helped to raise HDL
  - Who would restart Statin?
  - Statins in Geriatric population – Difficult Conversation, Clearly overprescribed, to complex to discuss as part of this presentation.

Many Medications Cause Depletion of Nutrients

74 year old woman with frequent UTIs

- PMH: stroke, hypertension, diabetes, peripheral neuropathy.
- Lives at home with her oldest daughter
- Dependent on most of her ADLs and incontinent of urine occasionally.
- wheelchair-bound
- attends activities at an adult daycare center weekly for different social activities such as art therapy and occasional physical therapy.
- Multiple UTI episodes prior to transfer to home base primary care.
- symptoms - dysuria, urinary frequency and urgency.
- Treated with multiple oral antibiotics including Augmentin, ciprofloxacin and cefpodoxime.
Upon admission to Home Based Primary Care Program, patient was prescribed D-Mannose Powder and Cranberry extract powder mix 1 teaspoon twice daily. Providing 5gm of D-mannose and 1 gm of Cranberry extract/day.

Patient subsequently had no recurrent UTIs for 3 years. She continues to be on D-mannose and cranberry regimen to this date.

Easy to take powder quickly dissolves in water and avoids extra capsules/pills taking

Prescription goes like this – take 1 tea spoon of powder into large glass of water 4 times/day – notice large glass of water!

Monthly cost is $30-50

In one randomized study of 308 women D-mannose was as effective for Nitrofurantoin in prevention of UTIs

Nursing home residents who were given 1 cup of cranberry juice or 6 capsules of extract had significant reduction in UTI frequency as compared to historical controls

In one small pilot study combination of D-Mannose, Cranberry extract and 2 types of Lactobacillus had dramatic effect on UTI frequency.

Osteoporosis – in addition to calcium

Osteoporosis - Integrative Approach

Table 1

<table>
<thead>
<tr>
<th>Integrative approaches to preventing decline and improving muscle strength and coordination</th>
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<tbody>
<tr>
<td><strong>Diet</strong></td>
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<tr>
<td><strong>Exercise</strong></td>
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<tr>
<td><strong>Supplements</strong></td>
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<tr>
<td><strong>Androgens/ Estrogens</strong></td>
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Strontium – used to be commonly used but BLACK BOX warning was placed on

Strontium Renoleate in Europe – Increase risk of Heart Attacks and Strokes.

In US - Strontium is Suppement, form is different, doses are low
72 year old woman with Osteoporosis

Bone Density Exam Results:

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<th>Date</th>
<th>Age</th>
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<th>T-score Change</th>
<th>Z-score</th>
<th>Z-score Change</th>
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<tr>
<td>06/21/2016</td>
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<td>0.723</td>
<td>-1.6</td>
<td>-1.6</td>
<td>-1.6</td>
</tr>
</tbody>
</table>

*Osteopenia significant change from previous scan.*

MK4 (Vitamin K2) dose increased to 45mg/day

Thank you Questions

MK4 (Vitamin K2) dose increased to 45mg/day