UPDATES IN GERIATRICS
IGTI 2017

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Disclosures

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What are we talking about this year in geriatrics?

- Care transitions & the value of community – based and home care programs
- Goal-oriented care focused on risks and time to benefit
- Timing of palliative care
- Antimicrobial stewardship
- Deprescribing
- Sarcopenia and frailty as predictors of outcomes and function
- Telemedicine and IT use and challenges
- Provision of high quality dementia care
- Healthcare reform and QPP/MACRA survival
- Challenges of cross cultural and health literacy issues
- Gaps in research in geriatric populations

What are we reading about this year in geriatrics?

- Blood pressure goals in older adults: controversy
  - SPRINT trial
  - ACP/AAFP guidelines
- Screening colonoscopy in older adults (>70 years):
  - Uncertain benefit
  - Decision should consider health status, life expectancy, risk, pt.'s goals
- Testosterone Trials: controversy
  - 7 trials, 800 men
  - No effect on cognitive function
  - Beneficial for anemia, bone density, mood, sexual function
  - Increased coronary artery plaques
- Structured exercise programs: update
  - LIFE study – previously reported that exercise reduces incidence of major mobility disorder
  - Now reports that exercise promotes restored mobility in persons with a major mobility disorder
- Updated GOLD COPD guidelines – new standardized assessment and prognostication tools

"Can a healthy lifestyle compress the disabled period in older adults?"

Jacob et al. - *JAGS*

Boston University GRECC / Harvard Medical School – collaborating faculty across the US

Cohort study of community-based older adults participating in Cardiovascular Health Study (CHS)

Objective was to determine whether healthy lifestyle factors , measured late in life, affect the disabled period toward the end of life

Jacob et al. "Can a healthy lifestyle compress the disabled period in older adults?" *JAGS* 2016. 64:1952-1961.

“Can a healthy lifestyle compress the disabled period in older adults?”

Multiple studies show that disabled older adults:

- Have a lower quality of life
- Have poorer health outcomes
- Have more hospital admissions
- Have a higher risk of mortality
- Have a higher cost of care

Little evidence in the literature of which factors may influence length and proportion of that disabled period

"Can a healthy lifestyle compress the disabled period in older adults?"

Population: 5248 community-dwelling adults age ≥ 65
mean age = 73

Male: 43% Female: 57% African American: 15%

Exclusions: wheelchair - dependent, institutionalized, needing proxy for consent, receiving cancer treatment, expecting to move within 3 years

Study period: 25 years (1989-2015)
9.2% of cohort living at end of study

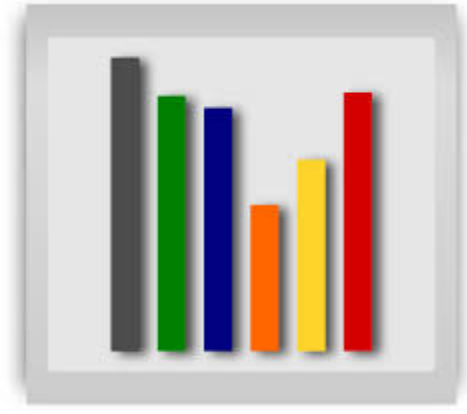
How was disability defined and measured?

- Disability = self-reported difficulties with activities of daily living (ADLs)
  - eating, bathing, dressing, transferring, toileting, walking
- Years of able life (YAL) – years with no reported difficulties with ADLs
- Years of life (YoL) – remaining lifespan during study
- YAL/YoL% - proportion of years with no disability

Lifestyle factors studied

Healthy	Unhealthy
• No history of smoking	• Current smoker
• BMI 18-24.9	• BMI ≥ 30
• 1-7 drinks EtOH/wk.	• ≥ 14 drinks EtOH/wk.
• High exercise intensity	• No exercise
• 48 blocks walked/wk.	• 6 blocks walked/wk.
• Large social network	• Small social network
• High social support	• Low social support

Methods



- Baseline lifestyle factors recorded
- Participants self-reported ability to complete activities of daily living twice per year
- Linear regression analysis of lifestyle factors and lifespan, years of able life, and proportion of disability-free years
- Results of study group also compared to validated statistical models of predicted disability

Results

Average number disabled years in lifespan:

- men = 2.9 (29%) women = 4.5 (34%)

Factors significantly associated with a shortened disabled period:

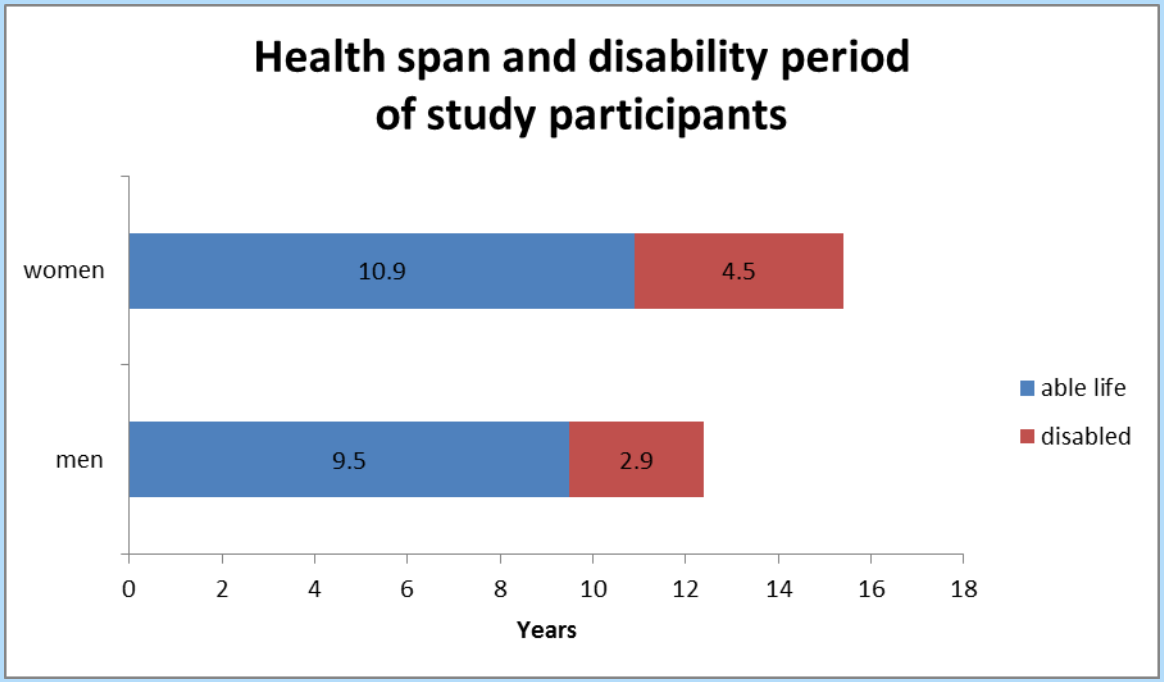
- Greater walking distances

Factors significantly associated with increased disabled period:

- Obesity
- Poor quality diet (p = .001)

Smoking was associated with *shorter lifespan & years able life*

Results


Health span and disability period of study participants
women
men
10.9
4.5
9.5
2.9
0
2
4
6
8
10
12
14
16
18
Years
able life
disabled

Take Home Messages

Healthy lifestyle factors influence the length of the disabled period, independent of their effect on life expectancy

Recommending and implementing healthy lifestyle factors might help to reduce public health burden

Social support is critical

Mobility is crucial

It takes an interprofessional team to provide good care

There is always going to be disability – need to have strategies in place to maximize function and quality of life, maintain patient-centered goals of care

"Comparison of posthospitalization function and community mobility in hospital mobility program and usual care patients"

Brown et al. - U. of Alabama – *JAMA*

Study looking at the effect of an in-hospital mobility program on 30-day post-hospital function and community mobility

Compared hospital mobility program (MP) participants to those receiving usual hospital care (UC)

First randomized clinical trial studying hospital mobility program

Brown et al. "Comparison of posthospitalization function and community mobility in hospital mobility program and usual care patients". *JAMA Intern Med*. 2016. 176(7):921-927.

"Comparison of posthospitalization function and community mobility in hospital mobility program and usual care patients"

- Hospitalization is associated with:
  - loss of activities of daily living (ADL)
    - Bathing, grooming, toileting, feeding, transferring
  - loss of community mobility

- Low mobility (bed, chair) is associated with:
  - loss of ADL
  - increased nursing home admissions
  - Longterm functional decline

- 40% of hospitalized older adults have a loss of ADL
- One third of hospitalized older adults do not regain the loss of ADL within one year of hospital discharge
- In one large study, community mobility was not regained within 2 years of hospital discharge

Boyd et al. "Recovery of activities of daily living in older adults after hospitalization for acute medical illness." *JAGS* 2008. 56(12):2171-79.
Brown et al. "Trajectories of life-space mobility after hospitalization." *Ann Intern Med* 2009. 150(6):372-8.

"Comparison of posthospitalization function and community mobility in hospital mobility program and usual care patients"

Population: 100 community-dwelling adults age ≥ 65
mean age = 74

Male: 97% Female: 3% African American: 19%

Exclusions: surgical hospital admission, life expectancy < 30 days, mini-cog < 3, delirium (CAM>1), non-ambulatory in the 2 weeks prior to admission (with or without device), non-english speaking requiring a translator

Study period: 1.5 years (2010-2011)

Methods

Participants were assessed on hospital admission:

- demographics, functional status – basic ADL, mobility (LSA), co-morbidities, disease severity

Patients were randomized to mobility program (MP) group or control (usual care group - UC)

Patients in MP group had 15-20 min assisted graded mobility session and socio-behavioral protocol with goal setting / diary

Patients in UC group had 15-20 min visit each day to record all visitors to their room in a diary

ADL and mobility assessed again on hospital discharge and 30 days after discharge

Results

An in-hospital mobility program can prevent loss of community mobility. Significantly higher mobility scores for MP participants.

No significant difference in ADL performance between MP participants or those receiving usual care

Hospital mobility program appears safe – **no falls** in mobility program group

Take Home Messages

Early and consistent mobility is crucial in the hospital

Community mobility is crucial to preserve function

High touch, low tech interventions can be very valuable

Social support is critical

It takes an interprofessional team to provide good care

Limitations:

- need to include women in future studies (3%)
- need to include patients with poor cognition
- need larger multicenter study

"Effect of cranberry capsules on bacteriuria plus pyuria among older women in nursing homes"

Juthani-Mehta et al. - Yale – *JAMA*

Double-blind, randomized, placebo-controlled study looking at the effect of cranberry capsules on presence of bacteriuria plus pyuria among women residing in nursing homes

Primary outcome was presence of bacteriuria ($\geq 10^5$ cfu) plus pyuria.

Secondary outcomes included symptomatic UTI, all-cause death, all-cause hospitalization, and antibiotics given

Juthani-Mehta et al. "Effect of cranberry capsules on bacteriuria plus pyuria among older women in nursing homes". *JAMA* 2016. 316(18):1879-86.

"Effect of cranberry capsules on bacteriuria plus pyuria among older women in nursing homes"

Controversy: cranberry and UTI in older adults

Cranberry juice investigated – is urine pH lowered through quinic acid metabolism to hippuric acid?

Do proanthocyanidins prevent bacteria (*E.* coli) from binding to uroepithelial cells?

Cranberries = 90% water

Exact effects remain unknown after almost 100 years – but many prior studies with flawed methodology

Nicoelle, L. "Cranberry for prevention of urinary tract infection? Time to move on. JAMA 2016. 316(18):1873-4.

"Effect of cranberry capsules on bacteriuria plus pyuria among older women in nursing homes"

Population: 147 nursing home residents age ≥ 65
mean age = 86

Male: 0% Female: 100% Hispanic: 3%

Exclusions: expected NH discharge or life expectancy< 1 month, lived in NH < 4 weeks, chronic suppressive use of antibiotics or anti-infectives for recurrent UTI, ESRD, unable to give clean catch urine specimen, indwelling catheter, taking warfarin (interaction), nephrolithiasis

Study surveillance period: 1 year (study ran from 2012-2015)

Methods

Patients randomly assigned to group taking 2 cranberry capsules (72 mg proanthocyanidins) daily or placebo

Capsules were administered for 365 days

Urine specimen surveillance for bacteriuria plus pyuria was done every 2 months (clean catch)

Bacteriuria = $\geq 10^5$ cfu **Pyuria** = any number of WBC

Symptomatic UTI = acute dysuria, fever or leukocytosis, and at least 1 of the following: new incontinence, frequency, gross hematuria, or suprapubic pain **AND** culture of 10x5 cfu single org OR 10x2 of any # of orgs if catheterized

Results

Overall adherence to capsules = 80.1%

No significant difference in presence of bacteriuria plus pyuria among groups

No significant difference in symptomatic UTIs

No significant differences in rates of death, hospitalization, MDR bacteria, or antibiotic use

Take Home Messages

Cranberries are 90% water – are benefits seen the effects of hydration?

Hydration is critical for many reasons

It is crucial to assess the patient – are there really signs and symptoms consistent with a UTI?

Use a marker for infection that is specific

Communication of the interprofessional team is key

"A randomized placebo-controlled discontinuation study of cholinesterase inhibitors in institutionalized patients with moderate to severe Alzheimer disease"

Hermann et al. - Toronto, Canada – *JAMDA*

Double-blind, randomized, placebo-controlled pilot trial looking at the effects of discontinuation of cholinesterase inhibitors (ChEI) in institutionalized patients with Alzheimer disease

Primary outcome was change on the Clinician's Global Impression of Change (CGI-C) scale.

Secondary outcomes included safety, efficacy, and tolerability.

Hermann et al. "A randomized placebo-controlled discontinuation study of cholinesterase inhibitors in institutionalized patients with moderate to severe dementia. *JAMDA* 2016. 17:142-7.

"A randomized placebo-controlled discontinuation study of cholinesterase inhibitors in institutionalized patients with moderate to severe Alzheimer disease"

50% of Alzheimer disease (AD) is moderate to severe

Future projection that 90% of patients in nursing homes will have moderate to severe disease

Several guidelines recommend treatment for all stages of AD with discontinuation if problems tolerating medication or no longer an observed clinical benefit: British (NICE-SCIE), Canadian Consensus Conference, American Geriatrics Society *Choosing Wisely* recommendations

"A randomized placebo-controlled discontinuation study of cholinesterase inhibitors in institutionalized patients with moderate to severe Alzheimer disease"

Population: 40 nursing home residents age ≥ 55 with moderate to severe Alzheimer disease (MMSE ≤ 15)

mean age = 89

Participants taking oral cholinesterase inhibitor for ≥ 2 yrs.

Male: 80% Female: 20%

Exclusions: dementia other than Alzheimer disease, transdermal cholinesterase inhibitor use, acute medical illness at time of study, inability to swallow pills

Study surveillance period: 8 weeks

Methods

Participants were randomized to cholinesterase continuation (control group) or placebo group (discontinuation of medication)

There was a double blinded 2-week tapering phase for the group receiving the medication discontinuation

Patients were assessed at 0, 2, 4, and 8 weeks with multiple screening tests including the CGI-C and MMSE. Vital signs were assessed

Results

With cholinesterase inhibitor discontinuation:

- No significant cognitive worsening on CGI-C
- No increased adverse effects
- No significant weight changes
- No significant increase in falls
- No significant increases in caregiver distress

A subgroup with psychoses (hallucinations and delusions) did worse after medication discontinuation

Limitations: sampling bias - 80% male, allowed concomitant use of antipsychotics, short duration of follow up – are all effects seen in 8 wks?

Take Home Messages

This study found discontinuation of cholinesterase inhibitors to be safe and well tolerated

Consider continuing cholinesterase inhibitors in patients with psychoses

Always consider deprescribing

The whole interprofessional team should watch closely for clinical changes after medication discontinuation

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THANK YOU!

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