Spirituality and Healing

THE SCIENCE OF THE MIND, BODY AND SPIRIT CONNECTION

R. Murali Krishna, MD, DLFAPA
I have no financial relationships or affiliations to disclose.

I have no conflicts of interest related to material discussed in this presentation.
How did I become interested?
What is spirituality?

Coming into the presence of power that is higher than you.

Getting in touch with those intangible elements that bring meaning to and add vibrancy to your life.
THE SCIENCE OF THE MIND-BRAIN CONNECTION

Stress has a significant impact on health, disease and the mind

CONFRONTING STRESS

Demands are a part of daily life
We can't completely avoid stress
Fight or flight reaction
STRESS IS A PHYSICAL FORCE
Connection between stress and illness

- Heart
- GI system
- Brain
- Skin
- Immune system
- Hormones
- Healing
- Emotional disorders
ANGRY BEHAVIORS

- Assuming the worst of people most of the time
- Being impatient and irritable

COULD BECOME DESTRUCTIVE IF:

- It is frequent and intense
- It becomes uncontrollable
- It disrupts relationships
- It occupies your conscious awareness persistently

ANGER COULD CONTRIBUTE TO:

- Decreased blood flow to the heart
- Spasm of arteries
- Increased tendency to clotting
- Increased workload on heart
Anger and the Heart

Risk of heart attack increases 2.3 times in the 2 hours following an episode of anger
AHA Journal Circulation

Men with highest levels of anger are 3 times more likely to develop heart disease than men with the lowest levels
Harvard Public Health Study

Sudden stress and cardiomyopathy
Johns Hopkins

Laughter caused a 22% increase in circulation and negative emotions caused a 35% decrease in circulation
University of Maryland
Anger and the Heart

Study with 41 patients who had angioplasty to unclog arteries: those with the highest hostility are 2.5 times more likely to need another angioplasty in one year (Loyola College of Maryland)

Men with frequent outbursts of anger have 2x the risk of stroke (JAMA)

Anger worsens pain and inflammation of arthritis and other conditions

People with hostility have tendency to higher platelet activation, leading to clots (Alabama study)

Women who hide anger have hostile attitudes and feelings and have the highest thickening of arteries (Pittsburg study of 200 women for 10 years)
Anger Management

- Recognize the early warning signs
  - Resentment, frustration, impatience, etc.
- Determine what is causing you to feel powerless or experience a sense of injustice
- Pause; identify and change the situation or modify mistaken attitudes
- Channel your anger constructively
  - Use anger to motivate you
- Have balance in your life
- Learn the art of forgiveness
THE LONELINESS EPIDEMIC

- 1/5 of adults feel lonely
- 30% of relationships are severely strained
- Social isolation is more lethal than both obesity and smoking 15 cigarettes
- Loneliness increases inflammation, heart disease, dementia and risk for death
- Greater social connections reduces death risk by 50%
Positive Emotions & Impact on Health

"A MERRY HEART DOETH GOOD LIKE MEDICINE."
PROVERBS 17:22

"HAPPINESS IS SUPREME GOOD. ALL ELSE IS MERELY MEANS TO ITS ATTAINMENT."
ARISTOTLE, 3RD CENTURY
<table>
<thead>
<tr>
<th>HAPPINESS IS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENJOYING A STATE OF WELL-BEING</td>
</tr>
<tr>
<td>EXPERIENCING PLEASURE</td>
</tr>
<tr>
<td>FINDING JOY AND MEANING IN LIFE</td>
</tr>
<tr>
<td>FEELING COMPLETE</td>
</tr>
<tr>
<td>FEELING CONTENT</td>
</tr>
<tr>
<td>A SENSE OF SERENITY</td>
</tr>
</tbody>
</table>
HAPPINESS IS NOT RELATED TO:

- Age
- Sex
- Money
- Time periods
- Special events
- Prestige or power
- Homes, cars or other tangibles
Happiness is not necessarily only having what you want, but wanting what you have.
8 Character Traits of Happy People

- They like themselves
- They feel a sense of personal control
- They are optimistic
- They share their feelings
- They develop close and caring relationships
- They have a spiritual foundation
- They have balance in their lives
- They are creative in finding new options
NEUROPLASTICITY:
Improving brain connections for better health

- Discover the stress neutralizing system
- Telomere length for health and longevity
- You may influence gene expression
Stress reduction correlates with structural changes in the amygdala


1Massachusetts General Hospital, Charlestown, MA 02129, USA, 2Bender Institute of Neuroimaging, Justus-Liebig Universität Giessen, 35394 Giessen, Germany, 3University of Massachusetts Medical School, Worcester, MA 01605, 4Massachusetts General Hospital, Boston, MA 02114 and 5Abbott Northwestern Hospital, Penny George Institute for Health and Healing, Minneapolis, MN 55407, USA, 6Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital, Boston, MA 02114, USA
Review

Telomeres and lifestyle factors: Roles in cellular aging

Jue Lin a, Elissa Epel b, Elizabeth Blackburn a

a University of California, San Francisco, Department of Biochemistry and Biophysics, San Francisco, CA 94158, USA
b University of California, San Francisco, Center for Health and Community, 5555 California St., Suite 465, San Francisco, CA 94118, USA

Mindfulness practice leads to increases in regional brain gray matter density

Britta K. Höfel a,b,*, James Carmody c, Mark Vangel a, Christina Congleton a, Sita M. Yerramsetti a, Tim Gard a,b, Sara W. Lazar a

a Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA
b Bender Institute of Neuroimaging, Justus Liebig University Gießen, Germany
* (University of Massachusetts Medical School, Worcester, MA, USA)
The Emerging Field of Human Social Genomics

George M. Slavich¹ and Steven W. Cole¹,²

¹Cousins Center for Psychoneuroimmunology and Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles

²Department of Medicine, Division of Hematology-Oncology, UCLA Molecular Biology Institute, Jonsson Comprehensive Cancer Center, and UCLA AIDS Institute, University of California, Los Angeles
Heart rate variability predicts levels of inflammatory markers: Evidence for the vagal anti-inflammatory pathway

Timothy M. Cooper\textsuperscript{a}, Paula S. McKinley\textsuperscript{b,c}, Teresa E. Seeman\textsuperscript{d}, Tse-Hwei Choo\textsuperscript{c}, Seonjoo Lee\textsuperscript{b,c}, Richard P. Sloan\textsuperscript{b,c,*}

\textsuperscript{a}Columbia University College of Physicians and Surgeons, Columbia University Medical Center, New York, NY, United States
\textsuperscript{b}Department of Psychiatry, Columbia University Medical Center, New York, NY, United States
\textsuperscript{c}New York State Psychiatric Institute, New York, NY, United States
\textsuperscript{d}Department of Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA, United States

\textbf{A R T I C L E \ I N F O}

Article history:
Received 19 September 2014
Received in revised form 21 November 2014
Accepted 13 December 2014
Available online xxxx

\textbf{Keywords:}
Vagal anti-inflammatory pathway
Heart rate variability
Inflammation
Urinary norepinephrine

\textbf{A B S T R A C T}

Evidence from numerous animal models shows that vagal activity regulates inflammatory responses by decreasing cytokine release. Heart rate variability (HRV) is a reliable index of cardiac vagal regulation and can be inversely related to levels of inflammatory markers. Inflammation is also regulated by sympathetic inputs, but only one previous study controlled for this. In a larger and more representative sample, we sought to replicate those results and examine potential sex differences in the relationship between HRV and inflammatory markers. Using data from the MIDUS II study, we analyzed the relationship between 6 inflammatory markers and both HF-HRV and LF-HRV. After controlling for sympathetic effects measured by urinary norepinephrine as well as a host of other factors, LF-HRV was found to be inversely associated with fibrinogen, CRP and IL-6, while HF-HRV was inversely associated with fibrinogen and CRP. We did not observe consistent sex differences. These results support the existence of the vagal anti-inflammatory pathway and suggest that it has similar effects in men and women.

© 2014 Elsevier Inc. All rights reserved.
Resilience is the alchemy of life that transforms the coal of adversity into a magnificent diamond of strength.
Resilience is the force energizing an individual to grow through adversity or change by discovering one's resources, abilities and strengths.
The resilient...

- Discover the art of calming the mind
- Have an "attitude of gratitude"
  - Genuine appreciation for life
  - Sense of wonder and thankfulnessness
- Accept changes caused by adversity
- Are optimistic
- Find joy in the small things and in each moment
- Have humility and hope
- Nurture and commit to relationships
- Are not preoccupied with how others view them
- Let go of control
The resilient...

- Share dreams, plans, joys and sorrows
- Take pleasure in others’ successes and show concern for others’ failures
- Are kind, caring and giving
- Learn to tolerate uncertainty and see change as a challenge
- Develop patience and perseverance
- Are curious and seek regenerative experiences, skills and relationships
- Learn to cope with stress in constructive ways
- Adopt healthier lifestyles
- Seek equanimity and harmony
THE "ART OF SELF TALK"

1. STOP NEGATIVE THOUGHTS
2. DISTRACT AND REDIRECT
3. DETACH AND DISENGAGE
4. STOP, WRITE AND SHARE
5. SPRING TO ACTION
6. LOOK AT THE BIGGER PICTURE
Healthy Habits of Resilient People

THE RESILIENT...

- Learn to play and laugh a lot
- Seek spirituality
- Practice forgiveness
- Discover reverence
- Find strength in adversity
- Understand the meaning of their struggles
- Discover a purpose greater than themselves
The resilient are ordinary people who do extraordinary things when faced with challenges, change or adversity.
Resilient People Continuously Reinvent Themselves

"Resilience means learning to understand, cope with, influence and adapt to change; staying physically, emotionally and spiritfully active; cultivating new strengths and skills; finding joy, purpose and harmony; and feeling connected with your loved ones, those you serve and your community."

- R. MURALI KRISHNA, MD, DLFAPA
LEARN
TO RECOGNIZE AND DEAL WITH STRESS

FIND
INNER SERENITY AND TRANQUILITY

SEEK
SPIRITUAL FULFILLMENT

CULTIVATE
HEALTHY RELATIONSHIPS

SERVE
OTHER PEOPLE

VIEW
THE WORLD WITH A SENSE OF HUMOR

LIVE
IN THE MOMENT

7 Steps to a Healthier You
Each of us has a deep inner longing to make a difference in the lives of others. This is a testament to the higher aspirations of humanity: the desire to transform and heal the suffering and leave the world a better place.
Digging Deeper with Dr. Krishna

Visit INTEGRISOK.COM/IMH to access video series and podcast

Live Life Well Video Series
Focusing on the healing connection between mind, body and spirit, R. Murali Krishna, M.D., presents the Live Life Well video series as stepping stones in the journey toward leading happier, healthier lives.

Art of Happy Living™ Podcast
Focusing on the healing connection between mind, body and spirit, R. Murali Krishna, M.D., presents The Art of Happy Living™ series as stepping stones in the journey toward leading happier, healthier lives.
Thank You

PROCEEDS FROM BOOK SALES WILL BE DONATED TO THE DR. R. MURALI KRISHNA FAMILY ELIMINATE THE STIGMA OF MENTAL ILLNESS AWARD ENDOWMENT FUND THROUGH THE INTEGRIS FOUNDATION