Role of lifestyle in stress and coping: practical strategies

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Overview
- Stress and its effects on cognition
- Shutting of the stress response
  - Sleep
  - Physical activity
  - Recreation
  - Stress reduction strategies
  - Nutrition
- Facilitating behavioral change (MI)

Psychological Homeostasis
- The mind’s ability to SELF-RIGHT (INNATE)
- Allows us to return to higher cognitive functioning
- During a stress response, blood is shunted from this region to the brainstem in order to facilitate the “fight, flight or freeze” response
- In order to facilitate the mind’s ability to self-right, therefore... one needs to shut off the STRESS response
- Most of the time, we do this automatically
- ...BUT sometimes we get stuck
Why do we get stuck in the “stress” response?

- Repetitive negative thoughts
- Lifestyle:
  - Inadequate sleep
  - Inadequate physical activity
  - Lack of recreational activities, relaxation skills
  - Sub-optimal diet
  - Micronutrient deficiencies
  - Food intolerances
  - Inflammation
    - Turns on stress response (cortisol, adrenaline)
    - Energy used for “fight or flight”, NOT healing/repair

Optimizing Homeostasis

- Stress reduction:
  - CRITICAL first steps:
    - Optimize sleep
    - Optimal nutrition
    - Increase physical activity
    - Leisure/recreational activities
    - Body movement therapies (Yoga, Tai chi, Qi gong)
    - Self-regulatory techniques (Biofeedback, self-hypnosis)

- Cognitive/Behavioral:
  - Learning to recognize, disengage from negative, distorted thoughts
  - Mindfulness-based therapies (Jon Kabat-Zinn, PhD)
  - Health Realization (focus on innate capacity to self-right)

SLEEP

2003 National Survey of Children’s Health:

- 15 million children/adolescents: inadequate sleep
- Risk factor for management of anxiety and depression
- Anxiety, depression: poor sleep quality and quantity

Optimal hours of regenerative sleep: 10pm to 2am.

What interferes?

- School/school schedules
- Media-based activities before bedtime (TV, internet, reading)

What helps?

- Limiting daytime naps
- Recess
- Sleep environment (quiet, dark, no distractions)
- Sleep instruction (monitor duration of sleep; 80% to 85% sleep, 15% to 20% transition, REM sleep, parasomnias)
PHYSICAL ACTIVITY:
- Over 18,000 studies on exercise and mental health
  - The best exercise?
    - One the individual enjoys and will maintain over time (e.g., walking, 20-30 minutes)
  - Mechanism of action?
    - Increases blood flow, increasing O2 and nutrients
    - Alters brain chemistry
    - Improved sleep
  - Positive findings in research:
    - Aerobic activity (including brisk walking)
    - Strength-training
    - Yoga

Recreation/ Relaxation:
- Hobbies (music, art, etc.)
- Quiet unstructured time
- Creative play: Stuart Brown, MD
  - “Play is essential to health and can shape the imagination and integrate the self
- Being in nature: Richard Louv (journalist)
  - “Last child in the woods”
  - “The Nature Principle”
- Relaxation techniques
  - Mindfulness meditation
  - Biofeedback/ self-hypnosis

Optimizing NUTRITION:
- What’s the problem?
  1) We're no longer eating foods that nourish our bodies adequately
  2) We’re developing problems with digestion of certain foods, causing inflammation
  3) Inflamed bodies = inflamed nervous system = altered cognition/mood
1. Nourishing foods

- Standard American Diet (SAD diet):
  - Processed/refined foods: NOT REAL FOOD!!!
  - Micronutrient poor (vitamins, minerals, phytonutrients)
  - High in calories (stored as fat, NOT used as energy)
  - High in gluten, casein, whey, high-fructose corn syrup (inflammatory)
  - Contributing to rise in chronic inflammatory diseases

- Solution: WHOLE FOODS diet
  - LOTS of colorful vegetables/fruits (rich in phytonutrients, keep our cells working optimally)
  - Lean protein (lean meats, fish, legumes), 4 oz/meal or less
  - Some whole grains (ideally non-gluten: rice, quinoa, etc.)
  - Healthy fats (fish oil, avocados, nuts, olive oil)
  - Anti-inflammatory spices (turmeric, garlic, cinnamon, rosemary)

PHYTONUTRIENTS:

- Health-protective, disease-preventing compounds produced by plants when stressed by the environment (why GMO is not good)
- Have anti-oxidant properties
- Help the cells get rid of environmental toxins
- Help the body promote healthy cell-signaling:
  - Two main chemical reactions in the body:
    - STRESS (pro-inflammatory, fat-storing, disease-causing)
    - GROWTH/HEALING (anti-inflammatory, optimize health)

PHYTONUTRIENTS:
Rainbow Diet

- RED
  - Lycopene, ellagic acid: cooked tomatoes, strawberries, blackberries, pomegranates
- ORANGE/YELLOW
  - Alpha and beta carotene, hesperitin, cryptoxanthin: carrots, pumpkins, oranges, bell peppers, cantaloupes, sweet potatoes, lemons, squashes, peppers
- GREEN
  - EGCG, isothiocyanates, lutein, isoflavones, catechins:
    - Cruciferous vegetables (broccoli, kale, cabbage, watercress), dark leafy greens, green tea
- BLUE/PURPLE
  - Anthocyanidins, resveratrol, blueberries, elderberries, red/purple grapes
2. Hidden Food Intolerances

- "Hidden" because they don’t always cause discomfort after eating
- History of:
  - Colic/feeding problems/reflux as an infant
  - Frequent infections treated with antibiotics (kills off good bacteria in the intestines)
  - Development of chronic inflammatory conditions:
    - Asthma, allergies, eczema, anxiety depression, IBS, fatigue, insomnia, autoimmune disease

Hidden Food Intolerances

- Most common culprits:
  - Cow’s milk protein (casein, whey)
  - Gluten (wheat, rye, barley)
  - Soy
  - Corn
  - Eggs

Note: refined/added sugars increase inflammation

Hidden Food Intolerances: Diagnosis

- Elimination ("anti-inflammatory") diet:
  - For four weeks:
    - NO gluten, dairy, corn, soy, eggs, processed foods or refined sugars
    - Diet consists of MOSTLY vegetables and fruits, some lean protein and non-gluten grains, nuts, healthy oils/fats
    - Omega-3 fatty acids (fish oil) 1000 mg a day
      - GREAT for brain functioning
    - Probiotic once a day
    - Vitamin D3 (have level checked, then supplement)
    - Multivitamin once a day (depended soil)
Hidden Food Intolerances:
Treatment
- Elimination (‘anti-inflammatory’) diet:
  - At the end of the 4 weeks:
    - Reintroduce foods one at a time, every 2-3 days
    - Track symptoms (headaches, joint pain, insomnia, GI problems, anxiety, depression etc.)
    - If food causes symptoms, remove from diet, allow symptoms to resolve, and then try next food on list
    - At the end of the diet, only reintroduce foods that do not cause symptoms
  - If not feeling 100% better, may want to consult with practitioner trained in Functional Medicine

Optimizing nutrition
- Food is information
- (Real) Food is medicine
- Food is relationship (self, others, the planet)
- Mindful eating:
  - Reduces stress
  - Improves digestion
  - Increases enjoyment of food
  - Leads to consumption of fewer calories

Screening: The Basics
- Sleep:
  - What’s your typical nighttime routine?
  - What time do you get into bed?
  - How long does it take for you to fall asleep?
  - Do you stay awake thinking about things/what things?
  - Do you wake up sooner than you want?
  - If yes, is it hard to fall asleep?
  - Do you feel well-rested during the day?
Screening: The Basics

- Nutrition
  - Whole foods vs processed foods?
  - Multivitamin, supplements?
  - Essential micronutrient intake?

- Exercise
  - How often? How much? If not, was there a time when you did? What would you be willing to do?

- Recreation (creative vs passive is better)
  - Art, music, journaling, hobbies, etc.

Motivational Interviewing (Miller and Rollnick, 2002)

- Empathetic, patient-focused, guiding counseling style (not just a set of techniques)
- Seeks to create conditions for positive behavioral change by having patient articulate reasons for change, and how to achieve it
- Well-suited for brief clinical encounters
- Evidence-based (>300 clinical trials, both adults and adolescents)
  - Based on theory, verifiable, generalizable, delivered by wide range of health care practitioners, addressing a wide range of health behaviors

Two Assumptions:

1. Motivation: can be elicited by interpersonal interaction (not just innate character trait)
   - Confrontation leads to resistance
   - Empathy, understanding and exploration of patient's experience creates a space for self-reflection and desire for change

2. Ambivalence to change: normal and natural
   - Competing positive and negative feelings
   - Decision balance: pros and cons
Motivational Interviewing (con’t)

- **Patient:** articulates arguments for change and the treatment plan
- **Health care provider:** facilitates, guides patient through questions and reflections:
  - Shares information in a respectful way
  - Allows patient to direct treatment plan
  - Supports client self-efficacy:
    - Acknowledges difficulties of making behavioral change
    - Points out strengths
    - Points out previous successes
    - Avoids resistance by not lecturing, arguing with patient
    - Asks patient what they want to do and are willing to do

Giving information and advice

- **Ask for permission before giving advice**
  - This supports patient’s sense of autonomy:
    - “Of course, while my job is to give you information, you’re ultimately the one to decide…”
- **Elicit – Provide – Elicit**:
  - “What do you know about what causes depression (or other health condition, problem behavior, etc)?” “It sounds like you know quite a bit about…”
  - “There is some other information that might be helpful to you…may I share that with you?”
  - “What are your thoughts about that? How might you use that information? Is there anything that might be relevant for you?”

Giving information and advice

- When given permission to offer suggestions, offer several, not one (otherwise it looks like the “right” answer):
  - “Here’s what we know about how lifestyle affects moods… which one do you think is most out of balance for you?”
  - “Depression: Would you like to work on sleep, diet, exercise or stress reduction first?”
  - What do you think you could do to improve your (sleep)?
  - When would you like to start?
  - When would you like to come back and see me?

- If you offer solutions one at a time, it creates resistance, and the patient is more likely to offer reasons why each one won’t work
TAKE-HOME MESSAGE

- The MIND is connected to the BODY
- If ONE gets out of balance, it throws the OTHER out of balance
- There’s A LOT we can do to help others get back in balance

Resources

- Henry Emmons, MD
  - "Chemistry of Grief"
  - "Chemistry of Joy"
  - "Chemistry of Joy workbook"
- "Ultramind diet", Mark Hyman, MD
- Motivational Interviewing: www.motivationalinterview.org
- Internet search terms:
  - Institute for Functional Medicine
  - Mark Hyman, MD