OBESITY AND PAIN

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JOURNEY CLINIC

NORMAN REGIONAL HEALTH SYSTEM
OVERVIEW

• NATIONAL OBESITY EPIDEMIC
• OKLAHOMA OBESITY RATES
• POVERTY AND OBESITY
• STARTING THE DISCUSSION
• SET POINT THEORY
• REALISTIC GOALS AND OUTCOMES
• TREATMENT OPTIONS
• OBESITY AND PAIN
• ADVERSE CHILDHOOD EXPERIENCES
• RESOURCES
DEFINITION OF OBESITY

• BODY MASS INDEX (BMI): WEIGHT IN KG/HEIGHT IN METERS²
• HEALTHY WEIGHT  BMI OF 18-24.9
• OVERWEIGHT  BMI≥25-29.9
• CLASS I OBESITY  BMI≥30
• CLASS II OBESITY  BMI≥35
• CLASS III OBESITY  BMI≥40-49.9
SELF REPORTED OBESITY BRFFS 2015
US OBESITY RATES

• 9 of the 11 states with the highest obesity rates are in the South
  • Lousiana and Alabama tied for 1st
  • Mississippi
  • West Virginia
  • Kentucky
  • Arkansas
  • Kansas
  • Oklahoma
  • Tennessee
  • Missouri and Texas tied for 10th
• American Indian/Alaska Natives have an adult obesity rate of 42.3 %
OKLAHOMA RATES

OBESITY 8TH IN THE COUNTRY IN ADULTS

• >33.9% OF OKLAHOMANS.

• ADOLESCENT 17.3% OF HIGH SCHOOL STUDENTS
  • 6th highest in the nation

• Childhood obesity 10-17 year olds 17.4%

WHY ARE OBESITY RATES HIGHER IN SOUTH

Poverty rates by region and metro/nonmetro status, 2011-2015

POVERTY AND OBESITY

Limited resources and access to nutrient rich foods

• Food insecurity in early childhood associated with later obesity

• Households with limited resources to buy enough food often try to stretch their food budgets by purchasing cheap, energy-dense foods that are filling
POVERTY AND OBESITY

Cycle of food deprivation and overeating
  • mothers often restrict their food intake and sacrifice their own nutrition in order to protect their children from hunger

High levels stress, anxiety and depression
  • May lead to weight gain through stress-induced hormonal and metabolic changes as well as unhealthful eating behaviors and physical inactivity
POVERTY AND OBESITY

• Less opportunities for physical activity
  • Crime, traffic, and unsafe playground equipment are common barriers to physical activity

• Less outdoor space including parks, and recreational facilities

• Students in low-income schools spend less time being active during physical education classes and are less likely to have recess

• accessed 6/7/2017 FRAC.ORG
OKLAHOMA RATES

• DIABETES 9TH IN THE COUNTRY WITH TYPE 2 DIABETES (11.7%)
• HEART DISEASE DEATH RATE AMONG MALES-2ND HIGHEST (2011)
• OVERALL DEATH RATE FOR HEART DISEASE-3RD HIGHEST (2010)
HOW TO OPEN THE CONVERSATION

• ASK FOR PERMISSION TO DISCUSS THE TOPIC OF WEIGHT?
• IS THIS A GOOD TIME TO FOCUS ON WEIGHT LOSS IN THEIR LIFE?
• HOW HAS EXTRA WEIGHT AFFECTED THEIR LIFE?
• WHAT ATTEMPTS HAVE THEY DONE IN THE PAST TO MANAGE THEIR WEIGHT?
• WHAT MOTIVATES THEM TO CHANGE?
• DO THEY REMEMBER A TIME THEY FELT STRONG AND HEALTHY?
• PERSON FIRST LANGUAGE, EMPATHY
HOME ENVIRONMENT-THE SYRACUSE STUDY

- People who stored cereal on the kitchen counter weighed 20lbs heavier.
- People who stored soda weighed 24-26 lbs heavier.
- Fruit bowl kitchens helped people weigh 13 lbs less.
- Cluttered kitchen will increase intake.
  - Women ate 2 times as many cookies in cluttered kitchens as in organized kitchens.
CAN DO ATTITUDE

• PEOPLE MAKE HEALTHY EATING CHOICES BECAUSE:
  • CONVENIENT
  • AVAILABLE, ATTRACTIVE
  • NORMAL

• THINK OF THE FRUIT BOWL

• STUDY ANALYZED 112 STUDIES THAT COLLECTED INFORMATION ABOUT HEALTHY EATING BEHAVIORS AND FOUND THAT MOST HEALTHY EATERS DID SO BECAUSE THEIR ENVIRONMENT MADE FOODS LIKE FRUITS AND VEGETABLES VISIBLE AND EASY TO REACH (CONVENIENT), ENTICINGLY DISPLAYED (ATTRACTIVE), AND APPEAR LIKE AN OBVIOUS CHOICE (NORMAL).
WHICH DIET TO PRESCRIBE?

A-Z study

Atkins, Traditional, Ornish, Zone

Low fat, low carb vs mediterranean

Low fat vs low carb study Direct Trial 2008

Dietary Intervention Randomized Controlled Trial (DIRECT)

National Weight Control registry has successful weight loss maintainers that represent all

Weight loss diet studies: we need help not hype Freedhoff, Yoni et al. The Lancet, Volume 388, Issue 10047, 849 - 851
SET POINT THEORY

HOW MANY OF US HAVE DONE THIS?

• RAISE YOUR HAND IF YOU HAVE LOST AT LEAST 30 LBS
• KEEP YOUR HAND UP KEPT IT OFF FOR A >YEAR

• WHY IS THIS SO HARD?
• THE SET POINT THEORY
WHY DOES THE BODY PROTECT OUR FAT MASS

• OUR BODIES MAINTAIN/REPLACE CELLS
  • RED BLOOD CELLS,
  • LIVER CELLS,
  • SKIN
  • BONE

• TO RECOVER FROM CRITICAL INJURY AND ILLNESS

• “PROTECT” US FROM EXCESS CALORIE CONSUMPTION
FACTORS THAT INFLUENCE SET POINT

DEVELOPMENTAL EFFECTS
- INTRAUTERINE EXPOSURE
- CHILDHOOD
- PUBERTY
- PREGNANCY
- MENOPAUSE

FIXED FACTORS
- GENES
- AGE
- GENDER
- RACE

MODIFIABLE
- DIET
- ACTIVITY
- STRESS
- SLEEP/CIRCADIAN
- MEDICATIONS
INTERVENTION: CONSIDER THE WHOLE PATIENT

• CURRENT BEHAVIORS—FOOD & ACTIVITY
• PAST SUCCESSES AT WEIGHT LOSS OR MAINTENANCE
• STRESS LOAD
• SLEEP PATTERNS
• CURRENT MEDICATIONS
FRAMING GOALS AND OUTCOMES

• PATIENTS OFTEN WANT TO LOSE LARGE AMOUNTS OF WEIGHT-20-30%
• 5-10% WEIGHT LOSS HAS SHOWN TO BENEFIT HEALTH OUTCOMES
  • MORE ACHIEVABLE
  • SETTING A HIGHER GOAL DOES NOT NEGATIVELY IMPACT WEIGHT LOSS

OBESITY TREATMENT

- CHRONIC DISEASE WILL NEED CHRONIC MANAGEMENT
- MULTIPLE OBESITY SUBTYPES - 57 SUBTYPES WERE DISCUSSED AT HARVARD’S BLACKBURN’S OBESITY COURSE
  - THINK OF CANCER
  - ONE SIZE DOES NOT FIT ALL
- NEED MULTIPLE OPTIONS AND COMBINATIONS
  - WHAT WORKS FOR THE INDIVIDUAL PATIENT?
MEDICATIONS

• PHENTERMINE
• PHENTERMINE + TOPIRAMATE
• BUPRIPION + NALTREXONE
• LORCaserin
• LIRAGlutide
• ORLISTAT
PHYSICAL ACTIVITY

• DISCUSS WITH PATIENT BASELINE ACTIVITY
  • IPHONE USERS HAVE BUILT IN STEP COUNTERS IN THE HEALTH SECTION
  • WALKING IS THE EASIEST ACTIVITY TO ADOPT
  • WHAT DOES YOUR PATIENT REMEMBER DOING AS A CHILD
• WRITE AN EXERCISE PRESCRIPTION
  • CUSTOMIZE THE ACTIVITY, FREQUENCY AND DURATION
Definition of pain

1  : punishment the pains and penalties of crime

2  a : usually localized physical suffering associated with bodily disorder (such as a disease or an injury) the pain of a twisted ankle; also : a basic bodily sensation induced by a noxious stimulus, received by naked nerve endings, characterized by physical discomfort (such as pricking, throbbing, or aching), and typically leading to evasive action the pain of bee stings
   b : acute mental or emotional distress or suffering : grief the pain she had felt at those humiliating words — Morley Callaghan

3  pains plural : the throes of childbirth

4  pains plural : trouble, care, or effort taken to accomplish something was at pains to reassure us

5  : one that irks or annoys or is otherwise troublesome —often used in such phrases as pain in the neck His little sister is a real pain in the neck.
ADVERSE CHILDHOOD EXPERIENCES

• EVOLVED FROM WORK DONE WITHIN A WEIGHT LOSS CLINIC AT KAISER IN THE 1980S BY DR. FELITTI
  • PATIENTS WERE 100-600 LBS OVERWEIGHT
  • PATIENTS WERE QUITTING THE PROGRAM (50% DROP OUT RATE)
  • PEOPLE WERE QUITTING THE PROGRAM WITH SIGNIFICANT WEIGHT LOSS
  • LOSING WEIGHT WAS CAUSING PROBLEMS IN THEIR ADULT LIVES
    • INCREASE IN ANXIETY, DEPRESSION, FEAR, ANGER
  • CHILDHOOD TRAUMA AT ASTONISHING NUMBERS OF THESE PATIENTS
DEVELOPMENT OF ACE STUDY

• DEVELOPED QUESTIONNAIRES LOOKING AT EMOTIONAL, PHYSICAL, SEXUAL TRAUMA
• KAISER AND CDC HAVE BEEN COLLECTING DATA SINCE 1995
• CHRONIC DISEASE IS HIGHER IN THIS POPULATION
• CHILDHOOD TRAUMA IS VERY COMMON 67% OF RESPONDENTS HAVE AT LEAST ONE ACE
ACE QUESTIONS

- Did you live with anyone who was depressed, mentally ill, or suicidal?
- Did you live with anyone who was a problem drinker or alcoholic?
- Did you live with anyone who used illegal street drugs or who abused prescription medications?
- Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?
- Were your parents separated or divorced?
- How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up?
- Before age 18, how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any
THE ACE PYRAMID

The ACE Pyramid represents the conceptual framework for the ACE Study. The ACE Study has uncovered how ACEs are strongly related to development of risk factors for disease, and well-being throughout the life course.
ADVERSE CHILDHOOD EXPERIENCES
looking at how ACEs affect our lives & society

WHAT ARE ACES?
Adverse Childhood Experiences (ACES) is the term given to describe all types of abuse, neglect, and other traumatic experiences that occur to individuals under the age of 18. The landmark Kaiser ACE Study examined the relationships between these experiences during childhood and reduced health and well-being later in life.

WHO PARTICIPATED IN THE ACE STUDY?
Between 1995 and 1997, over 17,000 people receiving physical exams completed confidential surveys containing information about their childhood experiences and current health status and behaviors. The information from these surveys was combined with results from their physical exams to form the study’s findings.

*Participants in this study reflected a cross-section of middle-class American adults.
Almost two-thirds of adults surveyed reported at least one Adverse Childhood Experience—and the majority of respondents who reported at least one ACE reported more than one.

The ACE study looked at three categories of adverse experiences: childhood abuse, which included emotional, physical, and sexual abuse; neglect, including both physical and emotional neglect; and household challenges, which included growing up in a household where there was substance abuse, mental illness, victimization of a parent or caregiver, parental separation/divorce, or having a member of the household go to prison. Respondents were given an ACE score between 0 and 10 based on how many of these 10 types of adverse experiences they reported having experienced.
ACES CAN HAVE LASTING EFFECTS ON BEHAVIOR & HEALTH...

Simply put, our childhood experiences have a tremendous, lifelong impact on our health and the quality of our lives. The ACE Study showed dramatic links between adverse childhood experiences and risky behavior, psychological issues, serious illness and the leading causes of death.

The following charts compare how likely a person with 1, 2, 3, or 4 ACEs will experience specified behaviors than a person without ACEs.

*Having an ACE score of zero does not imply an individual could not have other risk factors for these health behaviors/diseases.

Physical & Mental Health
- Severe Obesity
- Diabetes
- Depression
- Suicide Attempts
- PTSD
- Heart Disease
- Cancer
- Stroke
- COPD
- Broken Bones

Behaviors
- Lack of Physical Activity
- Smoking
- Alcoholism
- Drug Use
- Sexual Abuse

Ace Score 0

Ace Score 1

Ace Score 2

Ace Score 3

Ace Score 4
LIFE EXPECTANCY
People with six or more ACEs died nearly 20 years earlier on average than those without ACEs.

80 YEARS

60 YEARS

ECONOMIC TOLL
The Centers for Disease Control and Prevention (CDC) estimates that the lifetime costs associated with child maltreatment at $124 billion.
### Table 4. States in the Lowest and Highest Quartiles for Prevalence of Reported Adverse Childhood Experience, and State Percentage Prevalence

<table>
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<th>Economic hardship</th>
<th>Divorce/Separation</th>
<th>Alcohol/Drug</th>
<th>Mental illness</th>
<th>Violence</th>
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WHO MENTAL HEALTH SURVEY OVER 10 COUNTRIES

ACE ASSOCIATED WITH ANXIETY/DEPRESSION IN CHILDHOOD N=18,303
• INCREASED THE RISK OF CHRONIC PAIN IN ADULTHOOD BY 1.5-2.2X
  • OSTEOARTHRITIS
  • FREQUENT OR SEVERE HEADACHE
  • CHRONIC BACK OR NECK PAIN

Association of Childhood Adversities and Early-Onset Mental Disorders With Adult-Onset Chronic Physical Conditions. Kate M. Scott; Michael Von Korff; Matthias C. Angermeyer; Corina Benjet; Ronny Bruffaerts; Giovanni de Girolamo; Josep Maria Haro; Jean-Pierre Lépine; Johan Ormel; José Posada-Villa; Hisateru Tachimori; Ronald C. Kessler. *Arch Gen Psychiatry*. 2011; 68(8):838-844.
Free Abstract: [http://archpsyc.ama-assn.org/cgi/content/abstract/68/8/838](http://archpsyc.ama-assn.org/cgi/content/abstract/68/8/838)
Pain sensitivity and pain scoring in patients with morbid obesity

Aim of systematic review was to examine pain thresholds in obese subjects compared to non-obese subjects.

- 1818 possible studies
- 7 were included
  - 4 showed higher threshold for pain in patients with obesity compared to patients without obesity
  - 2 showed lower threshold in patients with obesity
  - 2 showed no difference after significant weight loss via surgery

Small study applying random noxious stimuli showed mixed results for pain scoring (41 patients)
BIO-PSYCHO-SOCIAL WAYS TO REDUCE PAIN

Guided Imagery
- the prefrontal cortex and limbic system-(which the brain uses for memories)
- Repeated thoughts and emotions create nerve pathways in the brain.
- Chronic pain impulses travel along well-worn pathways.
- By using techniques such guided imagery pain pathways can become less active

Meditation

Massage
REFERRAL RESOURCES

- GREEN SHOE PROJECT 405-697-2109
- SUNBEAM FAMILY SERVICES 405-528-7721
- REDROCK 405-424-7711

TO LEARN MORE ABOUT RESILIENCE TRAINING-LEMONAIDEFORLIFE.ORG
QUESTIONS?