

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

PROFESSIONALISM AND MENTAL HEALTH

- I. PROFESSIONALISM
 - a. Fundamental principles
 - i. Interests of patient above those of physician
 - ii. Primacy of patient welfare
 - iii. Respect for autonomy
 - iv. **promote justice in the health care system, including the fair distribution of health care resources**
 - b. Responsibilities
 - i. Self: professional competence, commitment to scientific knowledge
 - ii. Patients: Honesty with patients, confidentiality, appropriate relations
 - iii. System: quality improvement, access improvement, fair distribution of resources, no conflict of interest
 - iv. Colleagues: professional reporting and policing of wrongdoing, working collaboratively and respecting each other
 - c. Forces that inhibit professional behavior
 - i. change over time: profit motive, cynicism, conflict of interest, lack of empathy...
 - ii. Role models: formal, informal, hidden curriculum
 - d. Methods to combat unprofessional behavior
 - i. Reflection
 - ii. Role Models
 - iii. Goal setting
 - iv. Formal methods to effect change
 - e. Patients...
 - i. Open/closed questions: find out what's going on, allow patient to lead/clarification, getting information quickly, getting specific information
 - ii. Giving information to ill/dying: SPIKES
 1. Set up interview - arrange for privacy, turn off pager
 2. Perception of the patient - do they understand what is going on, understand their chances
 3. Invitation - find out how the patient would like to be told, ask if they have anyone else they want you to talk to, and offer to answer any questions in the future
 4. Knowledge - prepare patient for bad news, give positive news first present the bad news clearly, do not convey hopelessness and explain in a way that the patient can understand
 5. Emotions/empathy - observe the patient, ask about feelings, stay with patient even if distressed, ask if there is anyone you should call
 6. Strategy/Summary - ask patient if they are ready to discuss treatment, state immediate plans, schedule follow-up, and understand the goals of the patient

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- iii. Give information to patient unless not legally competent (mental illness does not necessarily mean incompetent); children only with parental consent; emancipated minors (married/self-supporting/in military/ have children)

II. MALPRACTICE

- a. Definition
 - i. When a patient is harmed because of physician's actions or inactions
 - ii. Four D's must be present: dereliction, duty, damages, directly
 - iii. This is a tort (civil wrong, not a crime)
- b. Consequences: physician pays compensatory, possibly punitive damages

III. MENTAL HEALTH

- a. Alcohol/substance abuse
 - i. problem drinking: 5 or more drinks in one evening for a male; 4 or more drinks for a female in one evening; problem drinker students generally perform well at the beginning but by mid-stage or late-stage perform much worse academically
 - ii. *Substance Abuse* : 15% lifetime prevalence of impairment; 75% recovery rate (fear of losing license); highest in anesthesiologists, OB/GYN/ER b/c of access
- b. Suicide
 - i. 145 physicians suicide annually, both female & male
 - ii. Alcohol and/or drug abuse play a role in 40% of suicides
 - iii. Often the summation of several issues
- c. Stalking
 - i. 1/3 of physicians stalked, 63% of stalking lasted less than 1 year
 - ii. 40% of clinicians called police
- d. Divorce
 - i. female (37%) to male (28%) physicians
 - ii. among those who got married before graduation: female (33%) to male (23%)
 - iii. high academic achievement or death of parent before graduation lowers risk of divorce
- e. Reporting impaired physicians
 - i. Causes: alcohol/substance abuse, physical/mental illness, old age
 - ii. Must 1) prevent doctor from practicing 2) get help for them
 - iii. Can be held accountable if fail to report
- f. Sexual harassment
 - i. female (50%), male (66%)
 - ii. 80% by male patients; 12(f)/15(m) by fellow students or residents
 - iii. female: comments about appearance or sexual innuendo; male: taunts about being gay
 - iv. student usually fails to report incident

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HUMAN SEXUALITY

- I. SEXUAL DEVELOPMENT
 - a. Genital differentiation
 - i. **Testis determining factor gene** – on Y chromosome, causes indifferent gonads to develop into testes → testes secrete androgenic hormones
 - ii. Duct systems- have the potential to form genitalia
 1. **Wolffian duct system** – becomes male internal and external genitalia
 2. **Mullerian duct system**– fallopian tubes, uterus, top third of vagina
 3. Androgens support Wolffian development and Mullerian-inhibiting substance (MIS) suppresses Mullerian development → male
 4. Wolffian not stimulated, Mullerian not inhibited → female
 - b. Brain differentiation
 - i. Gonadal hormones also sexually differentiate brain
 - ii. Occurs later than genital differentiation – maybe second trimester
 - iii. Males deprived of/females exposed to androgens → neurologically and behaviorally demasculinized/masculinized
 - c. Physical and psychological disorders – phenotype and genotype at odds
 - i. **Androgen insensitivity disorder (AIS)**
 1. XY, androgen produced, but female phenotype
 2. female external genitalia and blind vaginal pouch
 3. may not detect in childhood
 4. puberty: no menstruation, testes may begin to descend
 5. feminine behavior, most heterosexual (according to female phenotype)
 - ii. **Congenital virilizing adrenal hyperplasia (CAH)**
 1. Excessive adrenal androgen secretions → masculinization of female genitalia
 2. Sometimes initially identified as males due to genitalia
 3. Identify as females
 4. 1/3 are homosexual – androgen exposure affects sexual orientation?
 5. Sexual reassignment surgery in infancy – but have to consider hormonal influence on brain and gender identity
 - iii. **Gender identity disorder (transgender/transsexual)**
 1. Physically normal, but identify with opposite sex
 2. Possibly due to decreased/increased availability of androgens in males/females –maternal immune reaction to fetal testosterone with second male fetus?
- II. HOMOSEXUALITY
 - a. Etiology – chemical (see above), genetic factors?
 - b. Now considered normal variant of sexual expression
- III. BIOLOGY OF SEXUALITY
 - a. Sexual response cycle
 - i. **Desire**
 1. interest, sexual fantasy
 - ii. **Excitement**

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1. Penile/clitoral erection, labial swelling, vaginal lubrication, uterus rises, nipple erection
 2. Increased pulse, BP, respiration
 - iii. **Plateau**
 1. Testes grow in size, move upward, secretion of few drops of fluid
 2. Outer third of vagina contracts, upper third enlarges = orgasmic platform
 3. Facial and chest flush
 4. Further increase in pulse, BP, breathing
 - iv. **Orgasm**
 1. Expulsion of seminal fluid/contractions of uterus and vagina
 2. Contractions of anal sphincter
 3. Further increase in pulse, BP, breathing
 - v. **Resolution**
 1. Muscle relaxation
 2. Refractory period in men – restimulation not possible (women have little or no refractory period)
 3. Sexual, muscular, cardiovasc systems return to normal over 10-15 mins
 - b. Hormones
 - i. Estrogen – maintains condition of vagina
 - ii. Testosterone – plays a role in sex drive in men and women
- IV. SEXUAL DYSFUNCTION
- a. Taking a History
 - i. Limits of confidentiality
 1. Suspected abuse/neglect
 2. Threatens harm to self or others (includes HIV positive)
 3. Serious risk to health of minor
 - b. Dysfunctions
 - i. **Hypoactive sexual desire** – decreased interest
 - ii. **Sexual aversion disorder** – aversion, avoidance of sexual activity
 - iii. **Female sexual arousal disorder** – inability to maintain lubrication until sex is completed; 20% of women report
 - iv. **Male erectile disorder**
 1. Lifelong/primary – has never had an erection (rare)
 2. Acquired/secondary – currently unable to maintain erection
 3. Situational – difficulty maintaining in some situations but not others
*Morning erections, masturbation, erections during dreams → psychological cause
 - v. **Orgasmic disorder**
 1. Lifelong – no previous orgasm
 2. Acquired – currently unable
 - vi. **Premature ejaculation** – short or absent plateau phase, usually accompanied by anxiety; second most common
 - vii. **Vaginismus** – painful spasm of outer third of vagina – difficult to have intercourse of pelvic exam
 - viii. **Dyspareunia** – pain with intercourse; more common in women but can occur in men

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- ix. Drug-related
 - 1. Negative effects: dopamine, antipsychotics, serotonin, norepinephrine (in antihypertensives), long-term alcohol abuse, other drugs (long-term marijuana, opiates, methadone)
 - 2. Enhancing effects: amphetamines, cocaine

- V. TREATMENT OF SEXUAL DYSFUNCTION
 - a. Behavioral: sensate-focus exercises, squeeze technique – for premature ejaculation
 - b. Pharmacological
 - i. SSRIs (antidepressants) – delay orgasm
 - ii. Sildenafil citrate (Viagra) – blocks enzyme that destroys a vasodilator – used to treat erectile dysfunction
 - iii. Phentolamine – reduces sympathetic tone, relaxes smooth muscle
 - iv. Alprostadil –
 - c. Mechanical: vacuum pump
 - d. Surgical: implantation of prosthetic devices (penile implants)

- VI. SEXUALITY IN PHYSICAL ILLNESS AND AGING
 - a. Erectile dysfunction in men with history of MI, diabetes, spinal cord injuries

- VII. PARAPHILIAS
 - a. Exhibitionism, fetishism, frotteurism (man rubs penis against woman when she is unaware), pedophilia, sexual masochism, sexual sadism, voyeurism
 - b. Other: coprophilia (feces), klismaphelia (enemas), necrophilia, partialism, telephone scatologia, urophilia, zoophilia

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OBESITY AND EATING DISORDERS

- I. OBESITY
 - a. Body Mass Index
 - i. Calculate: $\text{weight in lbs} \times 705 / \text{height in inches} / \text{height in inches}$
 - ii. Normal = 20-25; overweight = 25-30; obese = 30+; anorexia = 17.5-
 - b. Prevalence
 - i. At least 25% obese, 66% overweight/obese
 - ii. More women than men
 - iii. 17% of children; highest among Mexican-American and African-American
 - *disparities in level of health care and prevalence
 - **obese children at risk for liver disease – will require replacement
 - c. Associated health problems
 - i. Cardiorespiratory
 - ii. Increased risk for metabolic syndrome, diabetes, heart disease, cancer, orthopedic problems
 - iii. Asthma, sleep apnea
 - iv. Social and emotional problems
 - d. Treatment
 - i. Mild overweight: diet and exercise modifications can be successful
 - ii. Overweight – obese: usually unsuccessful – weight gained back
 - iii. No long-term benefit of pills; abuse potential
 - iv. Surgical: gastric bypass, bariatric surgery (size of stomach reduced) – initially effective but little value in long-term weight loss; post-op complications
 - v. Behavioral modification: self-monitoring, stimulus control, response control, contingency management (reward/punishment for eating behavior)
- II. EATING DISORDERS
 - a. Overview
 - i. More common in women; teenagers and young adults
 - ii. Normal appetite, abnormal behavior
 - iii. Compensatory mechanisms: purging
 - iv. Hypergymnasia
 - b. Anorexia Nervosa
 - i. Below normal weight - <17.5 BMI, distorted body image, intense fear of obesity
 - ii. Amenorrhea
 - iii. Hypokalemia (low serum potassium), decreased bone density, increased liver enzymes, decreased thyroid, mild anemia
 - iv. Denies disorder, secretive about habits
 - v. Usually conflict with parents, high achievers, low sex drive
 - vi. Clinical Signs
 - 1. Lanugo

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2. Dry skin, brittle hair, hair loss
 3. Decreased bone density
 4. Cold intolerance
 5. Syncope or near-syncope (fainting)
 - vii. Treatment
 1. Restore body weight, save patient's life
 - a. Hospitalization usually necessary for weight gain
 - b. Address malnutrition and medical problems
 2. Long-term strategies
 - a. Antidepressants less effective
 - b. Family therapy
 - c. Bulimia Nervosa
 - i. Relatively normal body weight, poor self-image, worries about gaining weight
 - ii. Menstrual irregularities
 - iii. Hypokalemia, other metabolic abnormalities but not as severe as anorexia
 - iv. Binge eating followed by
 1. purging (purging subtype)
 2. fasting/exercise (non-purging subtype)
 - v. Distress about disorder
 - vi. Often show other impulse control problems
 - vii. 20-50% report sexually abused
 - viii. Normal sex drive
 - ix. Clinical Signs (purging type)
 1. Enamel erosion – caries
 2. Hoarseness
 3. Swollen/infected parotid glands
 4. Metacarpal-phalangeal calluses (Russell's sign) from gagging
 5. Esophageal varices (from vomiting)
 - x. Treatment
 1. Cognitive, behavioral therapies
 2. Antidepressants (esp SSRIs)
 3. Combination of both – most effective
- III. MEDICAL EFFECTS OF OBESITY, ANOREXIA, BULEMIA
- a. Cardiovascular
 - i. bradycardia
 - ii. Electrolyte abnormalities → arrhythmias
 - iii. Ipecac → cardiomyopathy
 - b. Endocrine
 - i. Tetany – serum Ca normal, ionized Ca undetectable → high serum pH; treat with IV of HCl
 - ii. Diuretic abuse → electrolyte imbalance → cardiac or muscle complications

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- c. GI
 - i. Both: constipation, nausea, bloating, delayed transit through stomach (can measure through gastric scintigraphy)
 - ii. BN only: esophagitis and bleeding
 - iii. Laxative use → unexplained diarrhea, electrolyte problems
- d. Refeeding syndrome
 - i. Patient with phosphorous depletion
 - ii. Reintroduce glucose → rapid ATP production → further P depletion
 - iii. Symptoms: muscle weakness, respiratory depression, cardiac failure

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CHILD DEVELOPMENT

I. THEORIES OF DEVELOPMENT

- a. Freud
 - i. Developing personality and mental function stem from conflicts among id, ego and superego
 - ii. Stages of pleasure
 1. Oral phase (0-1)
 2. Anal phase (2-3)
 3. Phallic/oedipal phase (3-6)
 4. Latency (6-11)
 5. Genital (adolescence)
- b. Erikson –development based on working through 8 stages
 - i. Basic trust vs. mistrust (0-1 years)
 - ii. Autonomy vs. shame (2-3 years)
 - iii. Initiative vs. guilt (3-6 years)
 - iv. Industry vs. inferiority (6-11 years)
 - v. Identity vs. role confusion (12-20+ years)
 - vi. Intimacy vs. isolation (20-30 years)
 - vii. Generativity vs. self-absorption (30+ years)
 - viii. Integrity vs. despair (65+ years)
 - * if goal is not achieved at specific age, will have difficulty achieving in the future
 - **increasing complexity of environment mirrors individual's struggle
- c. Piaget – cognitive development: from egocentrism to abstraction
 - i. Sensory motor (1-2)
 - ii. Preoperational (2-7)
 - iii. Concrete operational (7-11)
 - iv. Formal operational (adolescence – adulthood)
- d. Thomas and Chess – children born with inherent temperament – 3 types:
 - i. Easy – adaptable to change, regular habits, positive mood
 - ii. Difficult – not adaptable, irregular habits, negative mood
 - iii. Slow-to-warm-up: difficult at first, can adapt and improve over time

II. CHILDHOOD

- a. Infancy (birth – 18 months)
 - i. 0-2 mo: lifts head when prone, follows objects w/eyes, comforted b being picked up/hearing voice, has different cries for hunger/food
 - ii. 2-3 mo: lifts shoulders when prone, smiles in response to human face, and coos in response to attention
 - iii. 4-6 mo: rolls over, can sit, reaches for objects (does not use thumb), recognizes familiar people, forms attachment to primary caregiver, and babbles.
 - iv. 7-11 mo: crawls, pulls up to stand, uses thumb, withdraws from unfamiliar people, uses gestures, responds to own name and simple instructions.

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- v. 12-15 mo: walks, object permanence (know things exist even when cannot see them), anxious when separated from primary caregiver, says first words.
 - b. Toddler (18 months – 3 years)
 - i. 18 mo: stacks 3 blocks, throws ball, climbs stairs, moves from then to mother (rapprochement), uses 10 words, says name and scribbles on paper
 - ii. 2 years: stacks 6 blocks, kicks ball, undresses self, uses fork/spoon, parallel play with other children, says “no” a lot, has 250 word vocab, knows body parts and uses pronouns.
 - c. Preschool (3-6 years)
 - i. 3 years: 9 block stack, dresses self, has gender identity, achieves toilet training, can spend part of day away from mother comfortably, uses complete sentences, knows colors.
 - ii. 4 years: draws person, uses buttons/zippers, combs hair, brushes teeth, over-concerned about illness and injury, curious about where babies come from/bodily functions, has nightmares and phobias, has imaginary friends, shows good verbal expression, can copy a cross.
 - iii. 5 years: draws detailed person, can skip, plays cooperatively with other children, seeks affection of opposite-sex parents, can copy a square.
 - d. School Age (7-11 years)
 - i. 6 years: ties shoelaces, rides bicycle, begins to have a sense of morality, begins to understand death, begins to read, can print letters, draw triangle.
 - ii. 7 years: conservation of substance and liquid, develops logical thought
 - iii. 9/10 years: conservation of area
- III. ADOLESCENCE
- a. Early
 - i. Dramatic physical and physiological changes; frequent physical complaints
 - ii. Increasing awareness of changing appearance, usually more attention to appearance
 - iii. Acutely aware of sexual feelings and drives
 - iv. Moodiness but not depression is common; periods of mild turmoil as they see themselves change
 - v. Increased attention to peer groups
 - vi. Experimentation with alcohol/tobacco/cannabis and other substances
 - vii. Not major fighting with parents yet
 - b. Middle
 - i. Move from complete self-focus
 - ii. Respond to outside pressures
 - iii. More often in conflict with parents and authority figures
 - iv. Struggles for independence vacillates with dependency needs
 - v. Sense of omnipotence and invincibility
 - vi. Socialization in larger, mixed sex groups
 - vii. Substance experimentation

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- c. Late
 - i. Move to more separation from parents
 - ii. Relationship with parent begin to transform into more of an adult-adult as well as parent-child relationship
 - iii. More intimacy in relationships
 - iv. Date in pairs (as opposed to groups)
 - v. End of adolescence is unclear
- IV. PERVASIVE DEVELOPMENTAL DISORDERS
 - a. **Autistic Disorder:**
 - i. Seen <3 y.o., 26-75% MR, 4-5x more common in boys but often worse in girls
 - ii. Deficits in socialization, language and communication
 - iii. Problems forming relationships, even w/parents; do not play normally
 - iv. Resist changes in environment; often engage in repetitive injurious behavior w/o seeming pain
 - v. Some have savant skills, but this is unusual
 - b. **Rett's Disorder:**
 - i. Diminished social, verbal and cognitive development after 4 years of normal development
 - ii. Also have mental retardation
 - iii. Motor skill problems common and tend to worsen with age; social skills tend to improve
 - c. **Childhood Disintegrative Disorder:**
 - i. Rare condition where people have diminished social, verbal, cognitive and motor development after 2 to 10 normal years.
 - d. **Asperger's Disorder:**
 - i. "Mild autism," have normal cognitive but not social development.
 - ii. Often are obsessed with memorizing a complete set of obscure information
 - iii. Often engage in repetitive behavior.
- V. PROBLEMS AFFECTING DEVELOPMENT
 - a. **Mental Retardation**
 - 1. Child's functioning is significantly below that expected for age
 - 2. Both genetic (Down's, Fragile X) and biological (metabolic factors, pre- and postnatal infection, maternal substance abuse) causes
 - 3. Mild (IQ 50-69), moderate (IQ 35-49), severe, or profound
 - b. Disruptive behavior disorders
 - i. **Conduct Disorder**
 - 1. Inappropriate behavior that causes problems in social relationships and school performance
 - 2. Behavior significantly violates social norms: physical aggression, cruel behavior toward people and pets, destructive behavior, lying, truancy, vandalism, and stealing.
 - 3. After the age of 18, may develop into **antisocial personality disorder**.

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ii. **Oppositional Defiant Disorder**

1. ongoing pattern of disobedient, hostile, and defiant behavior toward authority figures which goes beyond the bounds of normal childhood behavior

iii. **AD/HD**

1. Inattention, difficulty controlling behavior; possibly neurological cause
2. Diagnosis: must have evidence before 7 yo, persistence for at least 6 mo, occurrence in at least 2 settings
3. 3 types: combined, predominantly inattentive, predom. hyperactive
4. Treatment: CNS stimulants

iv. **Tourette's**

1. Rare chronic disorders where people have involuntary motor movements and vocalizations (tics).
2. Begins before 18 yo

VI. CHILD RESPONSE TO DEATH

- a. 2-6 years:
 - i. sleep disturbance and bad dreams, bedwetting, aggression, anorexia, denial
 - ii. Be concrete and specific – ok for child to attend funeral if another adult to support child
- b. 6-11 years
 - i. Intellectualizes, understands mechanism of death
- c. 12-18 years
 - i. Meaning is appreciated, strong denial, risk-taking behavior, idealization of dead person, friends over family
- d. When to refer:
 - i. disabling, symptoms last > 6mo or are extreme
 - ii. extreme guilt or self-blame, apathy, suicidal ideation

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CHILD AND ELDER ABUSE

- I. RISK FACTORS FOR ABUSE
 - a. Children
 - i. Prematurity, low birth weight
 - ii. Hyperactivity, mild physical disability
 - iii. Developmentally delayed
 - iv. perceived as slow or difficult, colicky
 - v. 35% under 5 yo, 25% 5-9yo
 - b. Elderly
 - i. Dementia
 - ii. Physical dependence
 - iii. Incontinence
 - iv. 50% of elderly are abused/neglected/exploited; neglect most common
 - c. Characteristics of abusers
 - i. drug/alcohol abuse
 - ii. poverty/social isolation
 - iii. history of personal victimization (possibly not applicable in elder abuse):
 - 1. 50-70% of mothers abused themselves
 - 2. 33-50% of child abuse in partner-abuse households
 - 3. Child witnessing abuse (up to 85% of domestic abuse) = child abuse

- II. SIGNS OF ABUSE
 - a. Questionable bruising patterns
 - i. Not over bony prominences (soft tissue)
 - ii. Non-mobile infants (or elderly in wheelchair)
 - iii. Areas rarely injured – back/lower buttocks
 - iv. What was used to cause: belt, hand, buckle-shaped bruises
 - v. Various stages of resolution (suggest repeated injury)
 - b. Additional signs
 - i. Cigarette burns – but can be self-inflicted (if it seems like it would have been difficult to restrain the victim)
*Abuse in the past → self-destructive behavior later on
 - ii. Scalding/immersion in hot water
 - iii. Injuries to the mouth (force-feeding)
 - iv. Wrist rope burns
 - v. STDS in a child = sexual abuse
 - vi. Spiral fractures (from twisting)
 - vii. Internal abdominal injuries
 - viii. “Shaken baby” syndrome: retinal and brain injuries
 - c. Inconsistent story; abused may present as victim; BUT important to always believe patient

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III. SEXUAL ABUSE

- a. Rates
 - i. Women: 6-32%, mean age 10yo, 94% by male abuser
 - ii. Male: 5-30% abused, mean age 11-14yo, 86% by male abuser
- b. Incest risk factors: mother removed from family or diminished ability; father verbally and physically aggressive
- c. Statutory rape: victim younger than 16 or 18 or mentally disabled
- d. Signs of abuse
 - i. STDs in a child
 - ii. Genital trauma, UTIs
 - iii. Specific knowledge at a young age, excessive initiation of sex games

IV. RESTRAINING ORDERS

- a. Victim must obtain from judge and pay fee; time limited
- b. May trigger retribution from abused

V. PHYSICIAN'S ROLE

- a. Mandated reporters of suspected child/elder abuse, rape, abuse of mentally ill adult or prisoner

VI. CHILDREN OF DIVORCE

- a. Behavioral risks
 - i. Lifetime higher risk for drug and alcohol abuse
 - ii. 70% academic difficulties; includes suspension/expulsion, dropping out
- b. Determining child custody
 - i. Child's best interests

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SMOKING AND ALCOHOL ABUSE

I. SMOKING

A. Health Risks

i. Coronary artery disease

1. Increase BP → endothelial damage → can't dilate vessels → ischemia
2. Reduction to baseline risk w/in 15 years of quitting

ii. COPD:

1. Irreversible reduction in air outflow
2. about 80% with disease were smokers (but only 20% of smokers get it)
3. risk also decreases with cessation effect

iii. Lung cancer

1. (120,000 deaths), other cancers (160,000 total)
2. higher rates among women, but dropping modestly

iv. Stroke

v. Environmental smoke

1. leads to lung cancer, CAD, SIDS, low birth wt, asthma, childhood pneumonia, otitis media
2. smoking bans → drop in heart attacks

vi. Additive risks of tobacco and alcohol

B. Drug qualities

- i. As addictive as heroin, more than alcohol
- ii. Stimulant and relaxant

C. Treatments

- i. Need extreme motivation (very difficult to quit)
- ii. Non-pharmalogical: counseling, self-help, phone counseling, nagging, not great data on effectiveness of exercise
- iii. Nicotine replacement therapy – wellbutrin vs chantix

II. ALCOHOL ABUSE

A. Typical progression of substance use

- i. Initiation/intoxication
- ii. Harmful use/abuse
- iii. Dependence/withdrawal
- iv. Relapse and craving
- v. Recovery and persisting deficits

*genetic and developmental-environmental factors contribute to etiology of alcoholism

B. Criteria for diagnosis

- i. **Substance abuse**- "A pattern of abnormal substance use that leads to impairment of occupational, physical, or social functioning" (Fadem)

1 or more of the following:

1. Failure to fulfill obligations
2. Use in hazardous situations
3. Legal problems
4. Use despite problems

*Case: alcohol abuse vs. problem drinking

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- ii. **Dependence** – “Substance abuse plus withdrawal symptoms, tolerance, or a pattern of repetitive use”(Fadem)
 - 3+ in same 12 month period of the following:
 1. More use than intended
 2. Unsuccessful attempts to cut down
 3. Reduce other activities
 4. Great deal of time spent on drug use
 5. Continued use despite adverse consequences
 6. **Tolerance** (need for more to achieve desired effect, or diminished effect) or **withdrawal** (cessation leads to substance-specific syndrome)
- C. Stages of change and interventions
 - i. **Pre-contemplation** – educate/confront
 - ii. **Contemplation** – psychotherapy to deal with ambivalence
 - iii. **Preparation** – advice/negotiation
 - iv. **Action** – referral/patient matching
 1. Psychoeducation patient and family
 2. MET – motivational enhancement therapy
 3. CBT – cognitive behavioral therapy
 4. Self-help groups (AA)
 - v. **Maintenance** – relapse prevention
 1. Avoid high-risk situations
 2. Avoid minor relapse
 3. Recover from relapses
 4. Identify triggers
 5. Alternative coping strategy
- D. Withdrawal symptoms
 - i. Delirium tremens
 - ii. Seizures/convulsions – safest way to detox is by substituting benzodiazepine
 - iii. Hyperadrenergic symptoms: sweating, GI symptoms, elevated BP
- E. Testing for alcohol abuse
 - i. **SASQ – single alcohol screening question:** “When was the last time you had more than 5 drinks in one day?”
 - ii. **CAGE questions**
 1. Ever thought you should cut down?
 2. Annoyed by others’ complaints?
 3. Felt guilty?
 4. Morning eye opener?
 - iii. Labs
 1. Elevated RBC size
 2. Elev uric acid
 3. Elev serum triglyceride
 4. Elev gamma-glut transferase – most sensitive
- F. Health effects of alcohol
 - i. Infections – Hep C, TB
 - ii. GI pain and bleeding – ulcers and esophagitis, hepatitis and cirrhosis
 - iii. Brain – dementia, Wernicke’s syndrome (thiamin deficiency – confusion, ataxia, ophthalmoplegia)

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- iv. Psychological comorbidity: abuse of second substance, antisocial personality disorder, phobias and other activity disorders, major depressive disorder, dysthymic disorder
- v. Cardio – CAD
- G. Recall statistics on FAS (fetal alcohol syndrome) and alcohol abuse
 - i. Alcohol withdrawal
 - ii. Early liver disease
 - iii. MR – 44% (<79 IQ)
 - iv. Retarded weight and height
 - v. Congenital heart disease and facial defects (thin upper lip, narrow eyes, flat space between nose and lip)

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MID-LIFE, OLD AGE, DYING

- I. MID LIFE
 - A. Erikson stages – adulthood
 - i. Intimacy vs Isolation (20-40)
 - ii. Generativity vs Stagnation (40-65)
 - iii. Ego Integrity vs Despair (65+)
 - B. Early adulthood (20-40 years) milestones
 - i. Marriage
 - 1. Intimacy vs Isolation
 - a. Develop mature relationship or else unable to later
 - b. Failure = self-absorption, isolation, loneliness
 - c. People come in with vague complaints of frustration rather than identifying this condition
 - 2. Most people get married between 20 and 30 (avg women 25, men 27); chances decline after this; 35=unlikely, 45=v. unlikely
 - 3. Marriage improves physical health and longevity
 - ii. Work:
 - 1. Men often develop careers, women may change career path (reenter work after children start school, become homemakers after having children)
 - iii. Social
 - 1. Separate from parents, establish sense of equality with parents, focus on own family
 - 2. Develop sense of self and others
 - iv. Children
 - 1. Most start having children between 20-30
 - 2. Parenthood as a contribution to society
 - 3. Adoption: children should be told as early as possible
 - v. Physical condition
 - 1. Peak of biological development
 - 2. transition from progression (growth) to retrogression (aging)
 - 3. Decreased metabolism
 - 4. Hair loss, wrinkles
 - 5. Some loss of procreative function
 - 6. Brain maturation: time of onset for many psychiatric disorders
 - vi. Cognitive ability
 - 1. Peaks in 20s, begins to decline after (slowing of reflexes, processing speed, working memory)
 - vii. **Age 30 transition/crisis** = critical period of reappraisal (Levinson)
 - C. Middle adulthood (40-65 years)
 - i. Financial independence, peak of career, authority obtained – 40-50
 - ii. **Sandwich generation:** responsible for children and aging parents
 - iii. **Midlife transition vs midlife crisis:**
 - 1. Transition: intense reappraisal of all aspects of life
 - 2. Crisis: feeling of not having achieved goals, realization that life is more than halfway over (Generativity vs stagnation)

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

3. May be precipitated by lifestyle changes: death of parents/spouse, loss of job, serious illness
 4. Can lead to change in job, infidelity, divorce, increased alcohol/drug use; “flurry of impulsive actions”
 - iv. Physical health
 1. issues start after 50
 2. deal with illness, peer deaths
 3. struggle to maintain body integrity in the face of declining health
 4. changing physical appearance
 - v. Children leave home
 1. Triangulation – children may be keeping marriage together

*variations on these milestones do not mean pathology
- D. Climacterium
- i. Men: decrease in muscle strength, endurance, sexual performance
 - ii. Women: ovaries stop functioning = **menopause**
 1. Emotional distress not uncommon, but few significant physical/psychological problems
 2. Vasomotor instability (**hot flashes**) – relieved with estrogen replacement therapy (ERT) – can also prevent changes in bone density
- E. Divorce
- i. Risk factors: short courtship, marriage during teenage years, premarital pregnancy, divorced parents, differences in religion/socioeconomic background, lack of family support, illness/death of child, bankruptcy; infidelity most cited reason
 - ii. Custody: **joint** (parents share child) or **split** (one child to each parent); **sole custody** less common now
 - iii. Negative effects: worst on children under 9 yo, puberty
 - iv. Divorced men have shortest life expectancy
- F. Family stats
- i. 60% of children live with married biological parents
 - ii. 2001- in more than half of all married couples with at least 1 child of preschool age, and almost 70% of couples with school-aged children, both parents worked outside home
 - iii. 25% of children live in traditional family configuration (father works outside home, mother homemaker)
 - iv. Average cost to raise child to 17 years old in US: \$100,000
- II. OLD AGE
- A. Biological changes
- i. Skin: wrinkling, decreased vascularity → pallor
 - ii. Decreased production of growth hormone: weight loss, incr body fat, decr muscle strength
 - iii. Some decline in sexual functioning
 - iv. Decreased cerebral blood flow, brain weight
*everything decreases except body fat: muscle mass ratio
- B. Psychological changes
- i. Personality – fairly stable

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

- ii. Morale maintained through social intimacy
 - iii. Integrity vs. Despair – pride in accomplishments vs regret about failures, disappointments
 - iv. Multiple losses: social status and worth, friends, family, health, independence
 - v. Depressive symptoms due to age-associated losses in function, further decrease in social opportunities
 - vi. Depression: characterized by memory loss, cognitive problems; may be misdiagnosed as **pseudodementia** but important to identify to prevent suicide
 - vii. Anxiety also common – due to increased frailty, sleep disorders, unidentified alcohol or benzodiazepine-related disorders
 - viii. Continued activity, education, social support → longevity
 - ix. Most elderly Americans live independently and care for themselves
- C. Neurological and cognitive changes
- i. Mild reductions in memory and learning speed, but don't interfere with ability to function independently
 - ii. Decreased neurotransmitter availability → increased likelihood of psychiatric symptoms, negative side effects of psychopharmacological treatment
 - iii. Dementia – less than 10%, but prevalence increases with age – present in up to 50% of over-85 population; pharmacologic treatments being developed
- III. DEATH AND DYING
- A. Ethical dilemmas facing physicians around the end of life of their patients
- i. Euthanasia – active or passive (killing vs letting die)
 - ii. Advanced directives: DNR, do not treat (antibiotics, CPR, intubation, hydration, feeding/NG tube), comfort measures only (pain control, hospice care)
 - iii. “The slow code”
- B. Bereavement – for own or loved one's death
- i. Stages of grief
 1. Denial
 2. Anger
 3. Bargaining
 4. Depression
 5. Acceptance

*some may go through simultaneously, in different order, or only 2 or 3
 - ii. Crying, other expressions of sorrow subside over 1-2 year period
 - iii. Can recur on holidays, special occasions (**anniversary reaction**)
 - iv. Cultural differences: inward or outward expressions of grief
 - v. Illusions – ie thinking deceased is physically present
 - vi. Minor weight loss, sleep disturbances
 - vii. Severe symptoms resolve in <2 months, moderate symptoms <1 year
- C. Abnormal Grieving
- i. Denial persisting over days or weeks
 - ii. Characteristics of bereavement persist, may even intensify over time
 - iii. Delusions – ie belief that deceased is controlling one's thoughts, hallucinations (hearing person talking, etc)
 - iv. Significant weight loss
 - v. Significant sleep disturbances

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

- vi. Intense feelings of guilt and worthlessness
- vii. Resumes few, if any, activities
- viii. Treat with antidepressants, antipsychotics, professional psychotherapy
- D. Role of physician
 - i. Make patient (and family) completely aware of diagnosis
 - ii. Validate intense responses as normal
 - iii. Support for patient and family, relieve suffering
 - iv. Distinguish normal and pathological grief reactions, treat the latter
 - * bereaved loved ones at increased risk for morbidity and mortality in first year of bereavement → physicians need to medically follow them
 - v. Resist sense of failure and emotional detachment it can lead to
- E. Life expectancy
 - i. US: average 76-77 years, varies by gender and ethnicity
 - ii. Chinese-American longest, African American shortest
 - iii. Women live longer, but more likely to have disabling health problems
 - iv. Longevity primarily associated with family history of longevity; also continued activity, work satisfaction, advanced education, presence of social support systems (marriage – see stats)

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

MAJOR DEPRESSION

I. MAJOR DEPRESSION

a. Overview

- i. Lifetime prevalence 5-10%
- ii. Higher prevalence in certain groups – ie medically ill
- iii. Average age of onset = 40 yo
- iv. Twice as common in females
- v. Increases risk of death from all causes
- vi. No ethnic or socioeconomic differences; certain professions can increase risk though

b. Etiology

- i. Biological factors: heredity, altered neurotransmitter activity
- ii. Psychosocial: loss of primary attachment figure or loved one, low self-esteem, negative interpretations of ordinary life events, feelings of helplessness – repeated futile attempts to escape negative situations

c. Diagnosis

i. Screening Questions

1. “Have you lost interest and pleasure in doing things?”
2. “Do you feel down or depressed?” (children and males may identify as “empty”)

ii. DSM-IV criteria for diagnosing Major Depression

AT least 5 symptoms for 2 weeks (2 months if bereaved); causes distress/impairment; not due to illness, drugs/alcohol

1. Depressed mood
2. Anhedonia
3. >5% weight change (change in appetite)
4. Sleep problems (insomnia or hypersomnia)
5. Psychomotor agitation or retardation
6. Chronic fatigue
7. Feelings of worthlessness or guilt
8. Problems concentrating
9. Thoughts of suicide

***SIGE CAPS** – suicide, interest, guilt, energy, concentrate, appetite, psychomotor, sleep

iii. Differential Diagnosis

1. These may appear to be depression (due to fatigue, weight loss, sleeplessness)
 - a. Drug abuse
 - b. Cancer, especially pancreatic and other GI
 - c. Viral illness such as AIDs
 - d. Endocrine abnormalities
 - e. Acute grief
→instead assess patient’s concentration or excessive guilt
2. These may appear not to be depression:
 - a. Dementia – depression often misdiagnosed; key is depression has diurnal variability (worse in the morning)

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

- b. Masked depression – as many as 50% of depression cases; patients report vague physical symptoms to primary care physicians – unaware or denying depression
- c. Mothers of toddlers – 10% found to have depression; toddler at risk for health problems, future depression (300% increase)

3. Bipolar disorder

- a. Abrupt onset, mean age 30 yo (depression: 40)
- b. Numerous episodes, 3-6 months each (depression: fewer episodes, 6-12 months)
- c. More hypersomnia
- d. Equal in males and females
- e. One episode of mania or hypomania and one episode of major depression = bipolar disorder
 - i. **Manic episode** (need 3 or more)
 - 1. Inflated self-esteem or grandiosity
 - 2. Decreased need for sleep
 - 3. Talkativeness or pressured speech
 - 4. Flight of ideas
 - 5. Distractibility
 - 6. Increased activity or agitation
 - 7. Engagement in activities that are likely to have negative consequences
 - ii. Hypomanic episode: mild for 4 days or more; no severe impairment or psychotic symptoms
- f. **Cyclothymic disorder**: mild form of bipolar; symptoms need to persist most of the time for 2 years to diagnose

d. Prognosis

- i. Can last 6-12 months if untreated
- ii. 50% risk of relapse within first 2 years
- iii. Episodes increase in frequency with age
- iv. 15% eventually commit suicide
 - 1. More common in elderly, men
 - 2. Mood disorders = 50-70% of suicides

*60% of patients who commit suicide visited doctor within 3 months of killing themselves, physician recorded vague physical complaints → among top 5 claims for malpractice

e. Treatment

- i. Ensure immediate safety, esp with suicidal patient
- ii. Psychotherapy and medication – 50-75% respond to one or both
 - 1. SSRIs – paxils, Prozac, Zoloft – first-line agents because more positive side-effect profiles
 - 2. Tricyclics – if patient doesn't respond to first prescription, but have more side effects – avoid in cardiac patients
 - 3. If suicidal or bipolar, treat with lithium (SSRIs may increase risk for suicide)

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

*Antidepressants can provoke manic episode in bipolar patients –question about previous manic episodes, treat with lithium or anticonvulsants (if lithium contraindicated), use sedatives for mania

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

CARE OF REFUGEE AND HOMELESS PATIENTS

- I. REFUGEES
 - a. Forms of immigration status
 - i. **Refugee** – someone who has crossed a national border and is unable to return home secondary to persecution or due to fear of persecution due to race, religion, nationality, political affiliation, member of particular social group
 - ii. **Asylum seeker** – someone who meets persecution criteria, has fled, and is asking for protection from host country
 - iii. **Internally displaced person** – hasn't crossed a border but has been forced to leave their home
 - b. Mental Health paradigm
 - i. Acculturative change
 1. **Culture shock**: “strong emotional response related to geographic relocation and need to adapt to unfamiliar social and cultural surroundings”
 2. Reduced when immigrants of same culture gather
 3. Young men at higher risk – lose status, required to venture out more
 4. Psychiatric symptoms, eg paranoia, depression
 - ii. Individual life experience of trauma
 1. Trust issues
 2. **Post-traumatic stress disorder** – different according to factors that influence trauma – developmental age, prior history, prior mental state, social context, interpretation of torture, circumstances of torture, severity and duration of events, community and peer resources, values
 3. Depressive disorders
 - a. Substance abuse
 - b. Neuropsychological impairment, psychosis, bipolar disorder
 - c. Somatic complaints, somatoform disorder
 - d. Personality change
 - e. Phobias, anxiety disorders, panic disorder, acute stress disorder
 4. Behavioral avoidance → truncated existence
 - iii. Patient's cultural views on mental health
 1. Medicalization of psychological problems as Western
 2. Stigma regarding mental illness, treatment
 3. Other priorities (ie children)
 - c. Explain the rationale and components of a domestic refugee health assessment
 - i. Health history, PE, hearing, dental assessment
 - ii. Tests for TB, Hep B, STDs*, parasites, malaria, lead screen if child <5yo
 - iii. Recommended: varicella, CBC, pregnancy test?, Hb/hematocrit
*Hx of sexual violence common: rape as instrument of war
 - d. Protective factors
 - i. Support – extended family
 - ii. Access to employment
 - iii. Human rights organizations' support
 - iv. Self-help groups
 - v. Ability to frame problems, give them meaning
 - vi. Freedom of cultural practice

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

- e. Ethnic disparities in health care
 - i. AA and Latinos – less access to physical and mental health services, poor quality
 - ii. Communication difficulties
 - iii. Overt bias, physician-held stereotypes
 - iv. Shorter-term patient-physician relationships
 - v. Relative scarcity of minority physicians

II. HOMELESS PATIENTS

- a. Recognize the limitations and resources for the medical care of the homeless patient
 - i. Lack of transportation
 - ii. Lack of social supports
 - iii. Criminalization
 - iv. Barriers to disability assistance
 - v. Limited access to nutritious food and water
- b. Effects of homelessness on health
 - i. Mortality
 - 1. 3.5-5 times mortality rate, average age = 47
 - 2. Risks: HIV/AIDS, renal dz, cold-related injury (frostbite, immersion foot, hypothermia, liver dz, CHF, substance abuse)
 - 3. Accidents or homicide cause ½ of deaths
 - ii. Severity of Illness:
 - 1. Homeless in 40's/50's develop disabilities more commonly seen in people decades older.
 - 2. Delay in seeking care
 - 3. Other priorities, inability to pay, cognitive impairment, etc.
 - iii. Effects of homelessness itself
 - 1. Exposure:
 - a. Cold and hot weather
 - b. Inability to bathe, wash, brush teeth, change clothes
 - c. Constant walking
 - 2. Violence:
 - a. Major risk factor for death
 - b. Daily part of life for many
 - c. Physical/sexual/mental abuse practically uniform experience
 - 3. Competing Priorities:
 - a. Food, shelter, clothing, court dates
 - iv. Behavioral health issues, developmental discrepancies
- c. Role of provider – how to adapt to this population
 - i. How to ask
 - 1. NOT “Are you homeless?”
 - 2. “Where do you stay?”
 - 3. Normalize – frequency of people who have “no fixed place to stay” and impact on health
 - ii. Get history – many factors that have affected health; trauma
 - iii. Realistic care plans (consider environmental limitations)
 - iv. Patient-centered decision-making
 - v. Make compliance easier: call in meds, call shelter, page PCP, free care application, bus tokens, discharge early in the day, consider respite

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

- vi. Aggressive assistance with benefit/disability applications, communication with case managers; advocacy

HUMAN BEHAVIOR IN MEDICINE - OUTLINES

CARE OF GAY AND LESBIAN PATIENTS

- I. WHO IS GAY?
 - a. Same-sex couples look like Americans generally, but those raising children are less affluent, more racially and ethnically diverse
 - b. 20-40% of homeless/runaway youth are LGBT
 - c. More in urban areas
- II. ETIOLOGY
 - a. Theories
 - i. Twin Studies – genes have non-negligible influence (Australian twins have 30% MZ concordance – 10 times more likely; 52% MZ brother concordance (DZ=22%))
 - ii. Older brother studies – for each older brother one has, 33% more likely to be homosexual; via maternal H-Y antibodies
 - iii. Exotic becomes erotic –
 1. gender non-conforming children become isolated; separation from boys → hyperarousal state around them
 2. 63% of homosexuals report gender nonconformity (vs 10-15% hetero.)
 3. Important for thinking about response to children who exhibit this behavior
 - iv. Dominating mom/weak dad theory has been discredited
 - v. Armageddon theory
 - vi. Do genes have a larger contribution in gay men? (Lesbians= more socially informed?)
 - b. The fetal brain
 - i. Amount, timing, localization of hormones (T, others)
 - ii. Number, affinity, antagonists of receptors (AR)
 - iii. These influence orientation? Gender identity?
 - c. Timeline of onset
 - i. Ages 2-4: child already has gender identity – being called otherwise can alarm
 - ii. Peripubescent (8-10, 10-12): more estrogen/testosterone
 - iii. Late adolescence (18-21): reinterpretation of previous experiences; understand sexual orientation as actually sexual identity
 - iv. Gender identity = continuous; sexual orientation 9→
- III. SOCIAL CONSIDERATIONS
 - a. Working with LGBT patients
 - i. Ask questions for care, not curiosity
 - ii. Behaviors and body parts: relevance of risk factors, prevention and treatment goals
 - iii. Sexual history: affirm: ask about a partner, use same language, welcome visits, open-ended questions, don't stereotype