Mini-Med Lecture 3

Cardiology and Healthy Living

Mini-Med School, Feb 2019
Wednesday, February 20th, 2019
Cardiology and Healthy Living
Patient Centered Medicine Topic: Cultural Humility
Mini-Med Spring 2019
Heart

- Muscular organ located between the lungs
- Pumps blood throughout the body via blood vessels
  - Takes ONE minute to pump all your blood!
- Pumps blood out via aorta and pulmonary arteries
- Receives blood via vena cava and pulmonary veins
The ‘highways’ of the circulatory system

**Systemic Arteries**
- Carry *oxygenated* blood *from the heart*
- Transports nutrients and hormones to tissues
- High pressure maintains blood flow

**Systemic Veins**
- Carry *deoxygenated* blood *to the heart*
- Transports waste materials from tissues
- Low pressure

**Capillaries**
- Network of vessels connecting arteries and veins
- Site of oxygen, nutrient and waste exchange
- Highly branched to increase blood diffusion
Exception!

- The **pulmonary artery** carries **deoxygenated** blood up to the lungs to where oxygen is picked up.
- The **pulmonary vein** carries **oxygenated** blood back to the heart, which pumps to the rest of the body.
Questions?
Cardiovascular Disease in the United States
(Not so) Fun Fact...

- Heart disease is the leading cause of death in America in both men and women
- Common diseases include:
  - Atherosclerosis
  - Hypertension
  - Coronary Artery Disease
Atherosclerosis

Buildup of plaque (made of fat, cholesterol) in the walls of arteries

Narrowing of arteries

Turbulent blood flow

High Blood Pressure
What is blood pressure?

- The force that flowing blood exerts on the walls of blood vessels
- The narrower the vessel, the higher the pressure as the blood ‘squeezes’ through
- Ideal blood pressure in adults:
  - **Systolic**: ≤ 120 mmHg when the heart contracts
  - **Diastolic**: ≤ 80 mmHg when the heart relaxes
Hypertension

- Elevated blood pressure \( \geq 130/80 \text{ mmHg} \)
- Chronic and asymptomatic
- Can lead to life-threatening emergencies:
  - Myocardial Infarction (Heart Attack)
  - Stroke
Case: Cardiovascular Emergency 1

- You are in the emergency room and a 57 year old man is rushed in 40 minutes after developing sudden weakness in his left arm.
- He seems very disoriented, half of his face is noticeably droopy and he is having difficulty speaking.
- What do you suspect is happening?
Stroke

- Life-threatening interruption of blood flow to the brain, depriving the brain of oxygen
- Can cause permanent damage to affected brain areas
  - **Brain cells do not regenerate** → loss of balance, coordination, vision, tremors
Types of Stroke

Hemorrhagic Stroke
Rupture of cerebra arteries due to hypertension

Hemorrhage/blood leaks into brain tissue

Ischemic Stroke
Clogging of cerebral arteries with atherosclerotic plaque or thromboses

Clot stops blood supply to an area of the brain
Detecting a Stroke

Think FAST!

FACE: Ask the person to smile. Does one side of the face droop?

ARMS: Ask the person to raise both arms. Does one side drift downward?

SPEECH: Ask the person to repeat a simple phrase. Is their speech slurred or strange?

TIME: If you observe any of these signs, CALL 9-1-1 immediately.
Case: Cardiovascular Emergency 2

- You are in the emergency room again when a 50 year old African-American man comes in clutching his chest in pain
- His breathing is loud and heavy and he complains about pain in his left arm as well for over 20 minutes even after resting
- What do you think is happening?
Myocardial Infarction

- ‘Heart Attack’
- A life-threatening interruption of blood flow to the heart
- Causes permanent damage to the heart muscle
The road to a heart attack...

- The heart has its own personal circulation supplying the muscle with oxygen and nutrients to pump blood → **coronary circulation**
- These vessels can get narrower over time with atherosclerotic plaque, or weaker with increased blood pressure
- This leads to **coronary artery disease**, a major cardiovascular disease in the US
- Complete occlusion or rupture of these vessels cuts off the blood flow, causing a **Myocardial Infarction (Heart Attack)**
Risk Factors for Cardiovascular Disease

**GENETICS**
- Women
- African-Americans
  - Earlier onset
  - More severe symptoms
  - More complications
- Age > 65

**COMORBIDITIES**
- Diabetes
- Obstructive Sleep apnea
Modifiable Risk Factors

- **Smoking** - accounts for an estimated 6.3 million deaths worldwide, destroys blood vessel lining, increases plaque build-up
- **High sodium diets** - salt increases water retention, which increases blood pressure
- **Excess alcohol intake**
- **Stress**
- **Obesity**
Questions?
So how can we remain healthy?
A healthy diet

Eat more of:

- **Complex carbs:** whole grains and fruit
- **Protein:** beans, peas, lean meat and poultry
- **Mono/polyunsaturated fats:** nuts, olives, canola oil, tofu
- Low-fat dairy for calcium (important for women!)
- Fiber
- Fruits and vegetables for iron, folic acid and important vitamins

Eat less of:

- **Simple carbs:** candy, white bread and rice
- **Saturated/trans-fats:** whole dairy, ice cream, packaged snack foods, fried food
- High-sodium foods increase blood pressure
- High-fat cuts of meat or poultry
Aerobic exercise

- Strengthens the heart muscle
- Increases blood flow to all body parts
- Reduces risk of cardiovascular disease
- Releases endorphins that improve moods and help with anxiety
- Maintains a healthy weight
But let’s be real...

Sometimes it’s difficult to make these healthy changes in reality due to old habits, busy schedules, logistics, misinformation...
So what can you do?

- **Don’t do it alone**
  - Exercising with friends makes time pass faster
  - Keeps you accountable

- **Have cheat days**
  - Treat yourself (every once in a while)
  - Start by making small changes

- **Read nutritional labels on groceries** to keep tabs on what you’re consuming

- **Exercising** doesn’t have to be ‘work’ - there are different types of workouts to suit your needs
  - Dance workouts like zumba are a fun way to get your heart pumping while you listen to good music
  - High Intensity Interval training is a short workout based on high heart rate exercises
  - Group runs and sports are great social workouts
Questions?
Cultural Humility in Healthcare
“Cultural humility may be defined as a process of being aware of how people’s culture can impact their health behaviors and, in turn, using this awareness to cultivate sensitive approaches in treating patients”

What is Cultural Humility in Healthcare?

• A set of tools, not a set of stereotypes, for cross-cultural communication

• Learning process which incorporates openness and self-awareness
  • Lifelong learning and critical self-reflection
  • Awareness of one’s own worldview

• Recognizing and challenging power imbalances for respectful partnerships
A Meeting Of Experts

• Your *patient is the expert* on their unique cultural perspectives and worldviews: *ask, listen, and learn*

• **Do not assume** that what you have learned about a cultural group applies to the individual in front of you

• Only your patient can speak to their own unique worldview and heritage
An example of why cultural humility matters: Najma’s Story

Najma’s Story, https://www.youtube.com/watch?v=L_9R_MtZ6bA
Exercise: Najma’s Story

In groups, discuss:

1. What are three examples of how the providers’ lack of cultural humility negatively affected Najma’s care?
2. How could the providers have worked with Najma to give her the care she deserves?
3. If you were Najma’s providers, what would you have done differently?
Some examples of how the providers’ lack of cultural humility negatively affect Najma.

<table>
<thead>
<tr>
<th>Najma’s Understanding</th>
<th>American Healthcare Team’s Understanding</th>
<th>Impact on Najma’s Care</th>
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<tbody>
<tr>
<td>Only sick individuals need to see the doctor</td>
<td>Healthy patients should have regular check ups</td>
<td>Najma does not understand why she needs to schedule doctor’s appointments/follow up</td>
</tr>
<tr>
<td>No set appointment times: the doctor will see you when you get there and when they are free</td>
<td>Appointment times are rigid and can be cancelled if patient is late</td>
<td>Receptionist was angry with Najma and called her selfish. Furthered Najma’s confusion and negative experience.</td>
</tr>
<tr>
<td>Medical records are not usually kept – forms are unusual.</td>
<td>Healthcare forms must be filled out to gather relevant patient information</td>
<td>Najma thought these questions may be for the police and might lead to trouble. Left Najma feeling isolated since she has no one to help her, especially since her husband’s death.</td>
</tr>
<tr>
<td>Patients see the doctor. Other healthcare team members are unusual.</td>
<td>Patients interact with many different parts of the healthcare team, and typically with the doctor the least</td>
<td>Najma was confused as to who her actual doctor was, believing it may be the nurse because they spent the most time together.</td>
</tr>
<tr>
<td>Doctors in America purposely keep patients waiting as the “powerful often keep subordinates waiting”</td>
<td>Lag between patients for physicians is common</td>
<td>Najma felt disrespected and an unequal power dynamic between her and her doctor</td>
</tr>
<tr>
<td>Bloodletting is sometimes a treatment in Somalia for illness</td>
<td>Physicians order blood draws and labs to diagnose various conditions and as part of wellness exams</td>
<td>Najma thought the doctor must believe she is sick because she was taking her blood. She did not feel comfortable asking more questions.</td>
</tr>
<tr>
<td>For a healthy person, a good Somalian diet does not need to be changed.</td>
<td>To treat anemia, having a diet high in iron is beneficial. Food examples provided to patients typically involve foods consumed in American diets</td>
<td>Najma throws away the food card as all the foods on it were foreign and she had no idea to cook them. Since she also “felt well and ate good food already”, she felt she did not need it.</td>
</tr>
</tbody>
</table>
Answer: How could the providers have worked with Najma to give her the care she deserves?

• They could have ASKED, LISTENED, and LEARNED in a non-judgmental and supportive way.

• To be great providers, Najma’s team should get to know her better and learn how the many different aspects of her life affect what her “best care” would be.

Najma had all the information the providers required to make a plan that best supported Najma’s needs – they just need to ask her!
Answer: What could have been done differently?

• Providers should have explained to Najma why they need to collect such detailed and personal information

• A thorough patient history should have been acquired, getting information about Najma’s:
  • current support systems
  • Experiences with healthcare in Somalia and America
  • Personal/cultural/religious beliefs

• With that information, the provider’s could have potentially better:
  • Explained the medical process, care team, and roles
    • E.g. purpose of paperwork; blood collection
  • Connected her to other support groups  (e.g. Somalian refugee group)
  • Been more supportive and empathetic throughout the visit
  • Understood her specific diet and recommended increasing consumption of foods she is familiar with/already eats.
  • And much more!
After acting with cultural humility, Najma’s care-team was able to learn how to better care for

Najma’s Story, [https://www.youtube.com/watch?v=L_9R_MtZ6bA](https://www.youtube.com/watch?v=L_9R_MtZ6bA)
Take Away

• Listen with respect and an open-mind to others’ experiences and beliefs

• Practicing cultural humility is a lifelong process – every person is different and there is always more to learn!

• Practicing cultural humility, no matter what field you go into, will help make our world a better and more understanding place
Questions?
References


• Cultural Competency- For Providers, https://www.youtube.com/watch?v=L_9R_MtZ6bA
Overview of Oro-Facial Pain and Puzzling Pain

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After I completed my dental training at NYU, School of Dentistry, I spent several months at the Triboro Division of Queens General Hospital where I treated TB patients for their dental needs. Thereafter, I spent two years in the United States Air Force treating pilots who were in the Tactical Air Command. (The US Air Force did not want their pilots to have toothaches while chasing enemy aircraft.) After I completed my 2 year tour of duty, I opened a dental office, and have been in private practice ever since. I moved several times as my practice matured. During my career, I received an appointment as an attending dentist in Newark Beth Israel Hospital in New Jersey and later was appointed to the staff at NYUCD as an Assistant Clinical Professor in the Special Care unit. As an advocate of continuing dental education, I obtained three fellowships: a Fellowship in The Academy of General Dentistry in 1978, a fellowship in The American College of Dentists in 2006, and a specialty Fellowship in Oro-Facial Pain in 2007. I am a past president of the Bergen County Dental Society and have been active for many years in the local and state dental society activities. As I further perused my educational endeavors, I was awarded a Diplomate of the Board of Orofacial Pain and a 4th fellowship relating to that same discipline. Currently, I am a Clinical Associate Professor at Rutgers School of Dental Medicine, instructing post graduate dental students on the subject of orofacial pain and dental sleep medicine. Part of my duties is to provide lectures to the post graduate residents relating to subjects of orofacial pain.