Loneliness and Social isolation

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Learning objectives:

- Explain the adverse impacts of loneliness and social isolation on health
- Recognize the risk factors for social isolation and how to identify such patients in clinical settings
- Describe interventions and research/policy gaps to reduce loneliness and increase social network

Case synopsis:

Mr. PA is a 73 year-old gentleman with a past medical history of poorly controlled type 2 diabetes mellitus complicated by peripheral neuropathy and Charcot foot with toe amputation, peripheral vascular disease, ischemic heart disease, deep venous thrombosis, and depression who presented to his primary care provider of 20 years with acute on chronic right foot pain.

Mr. PA had a long history of depression. He was also worried about financial problem. Sadly, his wife passed away four weeks ago from complications of alcoholism. Since then he reported insomnia, poor appetite, and hopelessness. He denied passive death wish, suicidal or homicidal thoughts or access to weapons. He did not check his blood sugar. He forgot to take his medications once or twice a week.

Mr. PA had chronic right foot pain from neuropathy and Charcot joint. One week before presentation, while attempting to help carry his wife's casket at the funeral, he tripped and suffered injury to his right foot. In the ED, x-ray of the right foot demonstrated nondisplaced fracture of the fourth proximal phalanx without evidence of acute erosions or periosteal reaction to indicate osteomyelitis. His foot was bandaged and was given additional hydrocodone for pain, but he continued to experience severe pain. In addition, his right foot began to bleed on the day of presentation to clinic.

His past medical history is significant for type 2 diabetes with diabetic neuropathy (last A1C was 10.9), hypertension, history of stroke without residual neurological deficits, seizure, peripheral vascular disease, and history of pulmonary embolism in 2012. He had cardiac bypass surgery in 2012. He did not disclose history of emotional and physical abuse as a child until the author (AW) garnered his trust. He quit drinking about 10 years ago. He had a 30 pack-year smoking history but quit over 20 years ago. In general, he did not like to see doctors or be in a hospital.

His medications included amitriptyline, apixaban, aspirin, atorvastatin, gabapentin, hydrocodone-acetaminophen, levetiracetam, lisinopril, metformin and sertraline. He did not like to take medications as he attributed several symptoms to their side effects.

He lived alone in a one-bedroom apartment. This was subsidized housing provided by the Area Agency on Aging and the county housing authority. His apartment was on the second floor of a building without an elevator. A visiting nurse was available to check on tenants. He had one brother with whom he got together almost every weekend until a month ago. He did not finish high school. He quit working at a junk yard to take care of his wife one year before her death. He did not drive. His main form of transportation was the city bus. Sometimes he got rides from friends. He was estranged from his one daughter.

His physical exam revealed a medium-built man with BP of 140/98. Mid-foot deformity and several amputated toes were evident with some tenderness and erythema over the dorsum of the right foot. There was decreased light touch and pinprick to mid-calf. The Montreal Cognitive Assessment was 20/30 consistent with mild cognitive impairment.

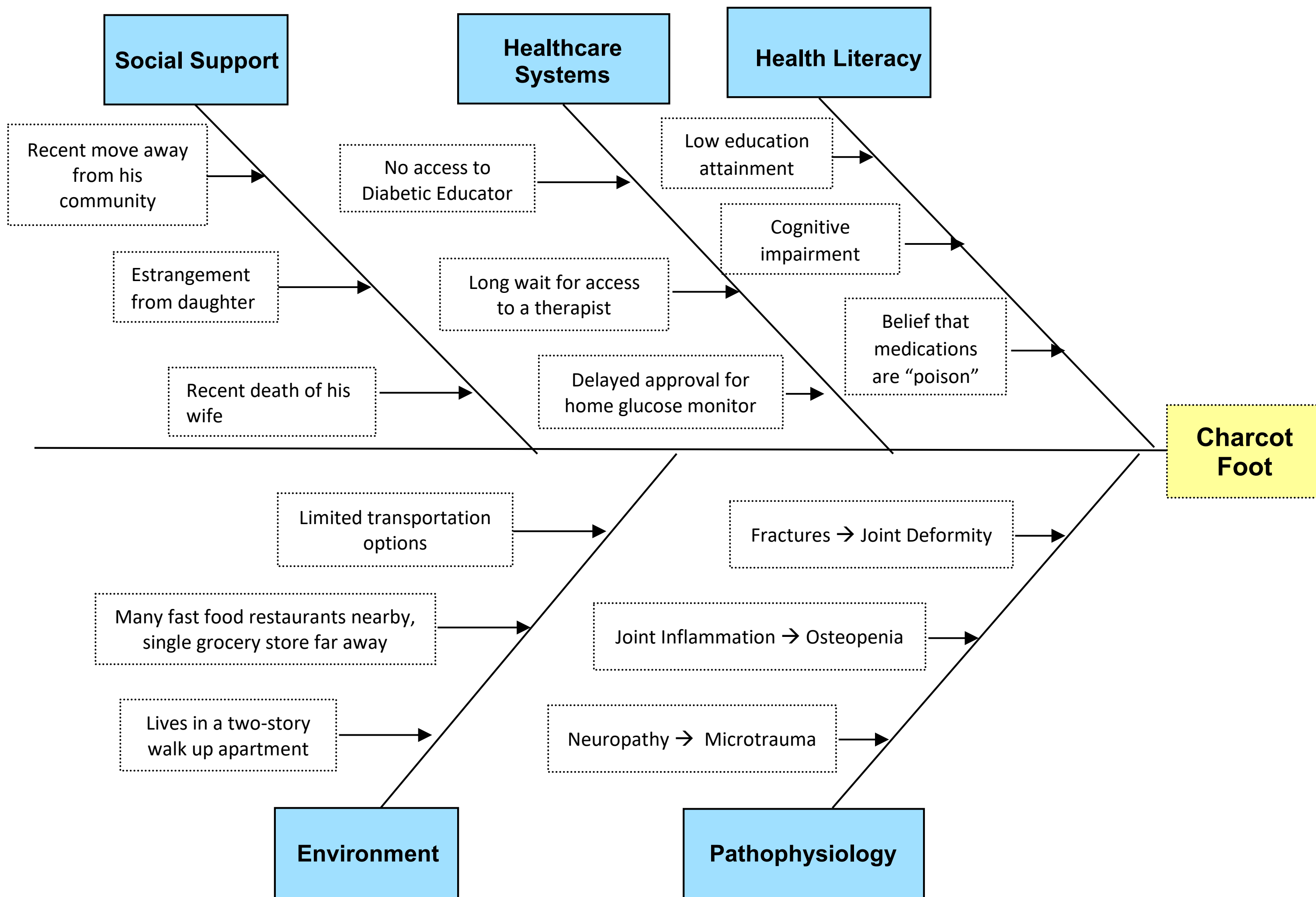
1. **Construct a clinical problem list for this patient**
2. **Conduct root-cause analysis for at least one problem**
3. **Describe positive/protective social determinants of health for this patient**

4. **Describe negative SDH factors**
5. **Propose patient-level solution with attention to facilitators and barriers**
6. **Imagine possible health system or institutional solutions**
7. **Discuss potential community/societal-level solutions**

Facilitator's Guide

1. **Construct a clinical problem list for this patient**
    a. Right foot trauma and cellulitis
    b. Bereavement in the context of major depression
    c. Diabetes with neuropathy and Charcot foot
    d. Peripheral vascular disease
    e. Hypertension

2. **Conduct root-cause analysis for at least one problem**



3. **Describe positive/protective social determinants of health for this patient**
    - Positive relationship with his primary care physician
    - Motivated to improve his health as he did manage to quit tobacco and alcohol use
    - He no longer worked in a junk yard with the stress and environment exposure. Auto salvage yards are thought to pose substantial risk to both humans and the environment from the toxicity of many chemicals and metals found in decaying cars
    - Housing and utility costs were covered
    - He enjoyed playing dominoes and poker with his brother whenever they could manage to get together
4. **Describe negative SDH**
    - PA lived on a fixed income. He had Social Security benefit ~$1,200 a month, about $350 of which went to rent/utility. The co-pays for his medications were about $280 a month
    - He grew up in an impoverished inner-city neighborhood. He moved to another neighborhood three years ago for subsidized housing. He mentioned that there were mice and cock roaches in his building. This neighborhood had one of the highest crime rates in the city. He was afraid to go for walks. All of these factors have created a feeling of isolation (see learning points below)
    - He only completed 10th grade schooling and had fixed beliefs about his conditions and treatment. He refused to take insulin as he had witnessed people "get reaction on insulin"
    - He did not drive or own a vehicle. He found it hard to walk or catch the city bus because of foot pain. His daughter used to give him a ride to his medical appointments, but they had stopped communication due to disagreement over financial issues
    - The nearest grocery store is a 40-minute trip on the city bus. There are a few convenience stores and fast food restaurants within walking distance.
    - He was distrustful of most healthcare and social services providers. The physical and emotional trauma he experienced as a child might result in difficulty in managing his emotions. He might internalize or externalize stress reactions causing anxiety, anger and depression. He might experience loneliness especially after the death of his wife.

    <u>Key learning points about social isolation</u>: Population-based longitudinal research indicates that perceived social isolation (loneliness) is a risk factor for morbidity and mortality independent of objective social isolation and health behavior. Human and animal investigations of neuroendocrine stress mechanisms suggest that chronic social isolation increases the activation of the hypothalamic-pituitary-adrenal axis and these effects are more dependent on the disruption of a social bond between a significant pair than objective isolation per se. Certain personal characteristics and life-course transitions have been associated with a higher risk of social isolation. Being elderly, having no children (or no contact/support from children), losing a partner are this patient's risk factors for social isolation which are comparable to established risk factors such as smoking, alcohol consumption, and obesity. Individuals who are lonely or socially isolated have an increased risk of physical (increased falls, cardiovascular diseases, functional decline, malnutrition, etc.) and mental health (increased depression, dementia) problems, as well as increased health services use. Increased mortality risk following spousal bereavement—widowhood effect is one of the best documented examples of the effect of social relations on health. Research found greater mortality risk for bereaved men than women, highest in the first 6 months following spousal loss.

5. **Propose patient-level solution with attention to facilitators and barriers**
    For many elderly isolated patients, healthcare providers might be their main source of social contacts. Continuing to foster strong patient-doctor relationship is therefore important. We should communicate our concerns with the visiting nurse who might be able to check on him weekly. Introduce Mr. PA to community resources such as senior centers and encourage him to take advantage of social activities in his building (social prescribing). There are senior companion programs operated by volunteers. However, Mr. PA might be reluctant to engage in these resources. Other interventions for social needs include enrolling him in the free

medical transportation program and encouraging him to take advantage of nutrition/food assistance such as food pantry and Meals on Wheels. With regard to the condition in his building, he and other tenants could be encouraged to discuss the pest problem with the manager/landlord. If management is not responsive, getting help from a medical-legal partnership might be more effective. Many neighborhoods have community organizations like block clubs, Neighborhood Watch to address crime problems, but they also mobilize around community development, community revitalization and engagement. Encouraging Mr. PA to get involved might dissipate his social isolation and contribute to his community.

6. **Imagine possible health system or institutional solutions**
   Health systems should screen/identify those at risk of social isolation. The Berkman-Syme and the 3-item UCLA Loneliness Scale (*How often do you feel that you lack companionship? How often do you feel left out? How often do you feeling isolated from others?*) are used in clinical settings to identify loneliness. Other recommendation includes asking how many people they could count on to help in times of needs. Outpatient practices can partner with community organizations to develop/promote social, educational and physical activity programs as well as group discussions or group therapies. Group-based activities might be more important for ethnic minority groups who share the same cultural values. Community health workers and/or navigator/peer supporters, whether employed by health systems or community-based organizations, can play an important role in tackling social isolation among other health promotion activities which they partake.
7. **Discuss potential community/societal-level solutions**
   Age-friendly environment helps people connect and remain independent. Initiatives such as repairing sidewalk, making it wheelchair friendly, safer pedestrian crossing, more green spaces and community gathering places give people a sense of belonging and community. Policies that support employment of older workers or voluntary opportunities that take advantage of their skills and experiences will help to influence societal attitudes towards ageing. There is also a role for technology to help address social isolation—internet communication, video conferencing, digital games, social media--but more research and funding are needed to assess their role in primary, secondary and tertiary prevention. Public education and messaging on the problem of social isolation and loneliness in older adults are also necessary to improve awareness.

References

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