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Application of the Five Stages of Grief to Diabetic Limb Loss and Amputation

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ABSTRACT

A potentially underappreciated member of the multidisciplinary approach to diabetic limb salvage is that of psychiatry. Diabetic patients are more likely to experience depression, and diabetic patients with depression are more likely to undergo an amputation. Also, both diabetes and depression independently increase the healthcare costs in the United States. The objective of the present investigation was to increase knowledge among diabetic foot practitioners with respect to psychiatric and other mental health patient-care issues, specifically the potential application of the 5 stages of grief to diabetic limb loss and amputation. We enlisted the assistance of a clinical professor from the psychiatry department at our institution to review the 5 stages of grief, provide context specific for application to diabetic limb loss, and offer clinically relevant guidelines for surgeons to better understand and communicate with their patients at each stage. The 5 stages reviewed were denial, anger, bargaining, depression, and acceptance. We hope that the present review will increase the body of knowledge with respect to relevant psychiatric issues and the diabetic foot and provide a starting point for increased awareness with respect to this important, yet underappreciated, aspect of patient care.

A multidisciplinary team approach to the diabetic foot has been widely recognized to lead to increased rates of wound healing, decreased major limb amputation levels, lower healthcare costs, and improved patient care (1–11). However, a potentially underappreciated component of this team is that of psychiatry. As an objective example, patients with type 2 diabetes mellitus worldwide have as much as a 30% greater risk of experiencing depression compared with those without diabetes, even without a specific history of the life-changing events of diabetic foot disease and amputation (12–19). With the global prevalence of diabetes increasing, it has become important to understand the ramifications of both diabetes and depression as independently increasing healthcare costs (20). Additionally, the combination of these 2 diagnoses has been shown to lead to an increased risk of developing multiple diabetic comorbidities, including retinopathy, nephropathy, neuropathy, and amputation (13,15,16,21–28).

Also suggesting the potential underappreciated mental health aspects of diabetic foot disease, similarities have been noted between the grief caused by the loss of a body part and the grief caused by the death of a spouse (29,30). Surviving spouses and amputees were found to have similar psychological reactions to their respective loss that were evident over the course of an entire year. Although it is socially acceptable to extend sympathy and patience to someone grieving the loss of a spouse, we might not have the same degree of empathy with our patients who have undergone amputation. As such, the widely accepted stages of the grief model used for death could have potential relevance within the treatment of lower extremity amputation (30–34). Dr. Elizabeth Kübler-Ross first described the stages of grief model in her classic text *On Death and Dying*, published in 1969 (35). These stages were (1) denial and isolation, (2) anger, (3) bargaining, (4) depression, and (5) acceptance (Table).

The objective of the present investigation was to increase the knowledge among medical professionals working with the diabetic foot with respect to the mental health patient-care issues, specifically, application of the 5 stages of grief to diabetic limb loss and amputation.

Materials and Methods

Because the initiating investigators of the present study were foot and ankle surgeons without specific mental health training, we enlisted the assistance of a clinical

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Table
Summary of the 5 stages of grief as related to diabetic limb loss

Stage of Grief	Clinical Definition	Tips for Surgeons to Recognize and Help Patients With This Stage
Denial	A conscious or unconscious decision to refuse to admit that something is true; in patients with diabetic foot disease, this could be the diagnosis of diabetes, sequelae of the disease process, the severity of a clinical situation, or the need for a recommended intervention Several forms of denial exist, including denial of fact, impact, awareness, cycle, and denial	Be as specific and explicit as possible with respect to the diagnosis and treatment recommendation Reinforce the diagnosis and treatment recommendation with second opinions and family meetings Repeat the diagnosis and recommend treatment with each patient encounter Have the patient repeat back the diagnosis and treatment recommendation to you
Anger	An emotional or physical act in which the patient attempts to place blame Patients often report a lack of trust with their treating physician Physicians themselves could develop anger as a response	Spend extra time with the patient in an attempt to identify a specific cause for the anger Repeatedly ask if the patient has any questions about their clinical situation, so they are as informed as possible throughout the process Be open and honest about the postoperative course and potential or likely long-term effects and complications
Bargaining	A negotiative process in which patients attempt to postpone or distance themselves from the reality of a situation	Remain firm regarding the treatment recommendations Do not actively participate in turning your recommendation into a negotiation
Depression	A feeling of loss of control or hopelessness with a situation Diabetic patients are more likely to experience depression, and depressed diabetic patients are more likely to undergo amputation	Increase the control the patient feels in their life with family meetings and amputation support groups Actively recognize depression in patients using screening tools and appropriate referrals to mental health professionals
Acceptance	A feeling of stability or resignation as the patient becomes an active participant in their life	The factors identified leading toward better adjustment to amputation include time, high levels of social support, prosthetic satisfaction, lower levels of stump or phantom pain, and an optimistic personality

professor from the psychiatry department at our institution to review the 5 stages of grief, provide context specific for application within diabetic limb loss, and offer clinically relevant recommendations for surgeons to better understand and communicate with their patients within each stage.

We also performed a basic published data review regarding patient responses to diabetes, depression, and limb loss. This information is likely relatively well known to practitioners within the mental health professions but not as familiar to foot and ankle surgeons. We performed a search of the PubMed database, without date restrictions, and included combinations of the search terms “diabetes,” “diabetic,” “grief,” “denial,” “anger,” “bargaining,” “depression,” “acceptance,” “mental health,” “amputation,” “limb loss,” “wound,” and “infection.” The reports were considered relevant for inclusion within our review if they contributed to the subsequent discussion about patients’ emotional responses to diabetes and limb loss. The corresponding author (A.J.M.) made the final decision with respect to inclusion.

From the onset, it is important to note that these stages should not be viewed as distinct, isolated, or independent events but, rather, as a spectrum with a degree of overlap as the patient progresses from the index diagnosis toward acceptance. For example, a patient does not have to have completely left the denial stage before developing signs of anger. A patient could also experience single or multiple feelings at any given time.

Results

Denial

“Denial” is refusing to admit that something is true (35). This can be a conscious or unconscious process and can actually reach levels of psychosis. For patients with diabetic foot disease, denial could come in the form of the diagnosis of diabetes itself, certain sequelae of the disease process, the severity of a specific clinical situation, or the need for a recommended intervention, among others. Although most physicians will likely recognize the concept of denial, they might not appreciate that it has several specific subsets (35). Thus, “denial of fact” is a denial of personal responsibility, such as refusing to believe a diagnosis or the severity of a clinical situation. “Denial of impact” is refusing to accept the consequences, such as a failure to modify one’s diet and lifestyle or refusing to implement preventative or treatment strategies. “Denial of awareness” leads to patients who actively or passively avoid appropriate treatment. “Denial of cycle” occurs when patients resume harmful behaviors that will lead to predictable outcomes and subsequently fail to appreciate the consequences of their decisions and actions. Finally, “denial of denial” involves thoughts, actions, and behaviors that untowardly give the patient confidence that nothing needs to be changed in their personal behavior and can be somewhat self-delusional.

Denial can be easy to recognize but difficult to treat with effective intervention. Strategies involve being as specific and explicit as possible with patients about their diagnosis and one’s recommendation. If, for example, extensive osteomyelitis has been diagnosed and a partial foot amputation is recommended, but the patient could also consider long-term antibiotics, one should be clear as possible with respect to the diagnosis and recommendation. As an illustration, consider: “Mr. Feynman, your diagnosis is very easy. You have an infection of your foot that involves the bone. Not only has the bacteria spread to your bone, but it has also essentially killed a portion of your foot to the point that there is dead bone in your foot. Although we have powerful antibiotics that treat infection, they cannot bring dead bone back to life. My recommendation is that we remove any dead or dying tissue from your body by way of amputation to give the antibiotics the best chance at fighting the remaining infection and try to save what is still alive. I want to be clear that my recommendation is that you undergo an amputation of your toes. Although you might have other options, I am confident that this gives you the best chance of keeping the remainder of your foot and making a recovery from this serious infection.”

Denial can also be combated by presenting the treatment recommendations using several different formats. This can most easily be accomplished in the form of second opinions and family meetings. Family meetings, in particular, can reinforce the diagnosis with the patient and can prevent them from bringing their denial into other areas of their life outside the healthcare system. Patients in denial might attempt to “wall off” potentially bad health news from their family members and their home life, essentially sheltering themselves with the diagnosis. Additionally, patients cannot always physically see what is happening with their feet, particularly on the plantar aspect. Thus, using a mirror during the patient encounter or showing any photographs of the affected tissue can help the patient understand the diagnosis. Finally, one can have the patient repeat the diagnosis using their own words and repeat it during each patient encounter. This will help ensure that the patient appropriately understands and is processing the information one is providing.