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Case Report

Novel Model System at a Student-Run Mobile Clinic to Increase Referrals Adherence

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Abstract

This case report (1) demonstrates the impact of mental illness in the homeless and uninsured, specifically Major Depressive Disorder (MDD), in accessing healthcare services (2) describes a novel model system with specific protocols put in place to overcome the challenges associated with managing chronic medical conditions at a student-run clinic.

Keywords: Homeless; Medical students; Mental disorder; Mobile clinic; Student-run free clinic; Uninsured

Introduction

According to the National Institute of Mental Health, approximately 25% of the homeless population in the United States suffers from a form of mental illness, which is twice the rate of the general population [1,2]. Severe mental illness consists of a diagnosis of psychotic disorders, bipolar disorder, Major Depression Disorder (MDD), anxiety disorders, eating disorders, and personality disorders. These are long-term illnesses that have substantial impact on an individual on multiple domains, leading to an inability to maintain employment, poor social relationships, repeated psychiatric hospitalizations, homelessness, incarceration, and overlapping substance use disorder [3]. In particular, MDD has a strong relationship to homelessness with a prevalence of almost half (47%) of all homeless women, which equates to twice the rate of non-homeless women [4,5]. Individuals with MDD experience significant disparities in health care-specifically in the access and receipt of health services, trust of care providers, and a continuity of care. Among adults with MDD and other mental illnesses in 2008, only 40 percent had used any outpatient health care services [3]. Therefore management of chronic medical conditions are especially difficult for homeless individuals due to pre-existing social environmental factors such as diet and lifestyle, transient nature of homelessness, and underlying substance use disorders.

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Among chronic medical conditions, high blood pressure or hypertension affects about 77.9 million (1 out of every 3) adults in the United States, according to the American Heart Association 2013 update [6]. When compared to the general population or low-income adults with established housing, homeless persons are more likely to have hypertension or other cardiovascular diseases at younger ages [7]. Management of chronic conditions such as hypertension and other cardiovascular diseases is commonly seen in Student-Run Clinics (SRCs) for the homeless and uninsured, with hypertension often the most common diagnosis [8].

Despite these challenges, current literature on the clinical outcomes of highly prevalent chronic diseases managed at SRCs, such as hypertension and diabetes, demonstrate high quality of care. East Harlem Health Outreach Partnership (EHHOP), a student-run clinic affiliated with Mount Sinai School of Medicine, confirmed hypertension outcomes and control were equivalent to publicly and privately insured populations [9]. Likewise, the UCSD Student Run Free Clinic Project (SRFCP) demonstrated diabetic patients reach clinical outcomes that meet or exceeded published outcomes of insured or uninsured diabetics on nearly all measures [10].

Here we report a case of a 54-year-old male continuity patient at the UCLA mobile clinic project who suffers from Major Depressive Disorder (MDD) and discontinued antihypertensive medications. He presented with uncontrolled hypertension (defined as a Systolic Blood Pressure (SBP) >140 mm Hg and Diastolic Blood Pressure (DBP) >90 mm Hg) with complications of lower-extremity pitting edema. Unfortunately, this is a case of common occurrence among SRCs, which normally and repeatedly goes unnoticed. The novelty of this report lays in the specific protocols and systems developed at a SRC to prevent this familiar pattern of negligence.

Case Presentation

D.R. was a 54-year old male with a history of severe depression and 20-pack year smoking history that presented to the UCLA mobile clinic for a blood pressure screening. He was subsequently diagnosed with hypertension and started on 50 mg hydrochlorothiazide. At the time of presentation, D.R. presented with a history of chronic depression, previously treated with antidepressants and psychotherapy. Patient Health Questionnaire (PHQ-9) score was >20 with no thoughts of suicidal or homicidal ideation. Based on DSM-IV criteria, D.R. described almost every day feelings of anhodenia, hopelessness, trouble falling and staying asleep, decreased energy, overeating, feeling bad about himself, difficulty with concentration, and being fidgety or restless. He was not currently taking any medications for depression and was not interested in pharmacotherapy at this time. Over the course of the next six months, D.R. continued to follow-up with our clinic for his blood pressure management and was doing well with his blood pressure within normal limits most times. During this time, he was consistently referred to a local permanent community free clinic for further care, but failed to follow-up due to fear of a foreign clinical environment and recurrent depression preventing him to provide self-care.

Six months later, D.R. presented with lower extremity edema. He had not been on blood pressure medication for several months and had been sleeping in a seated position. He denied any chest pain or shortness of breath. Vitals were significant for blood pressure of 171/98 mm Hg and physical examination was remarkable for bilateral lower extremity edema. He denied any chest pain or shortness of breath. One of the authors of this paper, a medical student, persuaded the patient to follow-up to Saban Community Clinic-Melrose the next day for rapid evaluation. D.R. agreed with the plan of care and transportation was arranged for prompt arrival.

At Saban, ECG revealed q-waves in leads III, a VF with poor r-wave progression. Physical examination was remarkable for bilateral lower extremity edema 2+ to the knee, otherwise no signs of jugular venous distension. Cardiovascular exam was significant for a regular rate and rhythm, with no murmurs, rubs, or gallops appreciated. Respiratory exam revealed a normal work of breathing and clear to auscultation bilaterally. D.R. was diagnosed and managed appropriately for uncontrolled essential hypertension and previous myocardial infarction. His medications included lisinopril 20 mg qday, hydrochlorothiazide 25 mg qda, aspirin 81 mg qday, and an internal referral for echocardiogram. Echocardiogram revealed an ejection fraction within normal limits, and without wall motion abnormalities. Lastly, he was not interested in therapy or medication for recurrent MDD, but was made aware of resources available and encouraged to follow-up as needed. D.R. today, continues to visit the UCLA mobile clinic project and regularly seeks care at Saban Community Clinic, his new primary medical home.

Discussion

At times, a change in behavior is motivated by discomfort. This traditional model of behavior change conveys the idea that when an individual is significantly uncomfortable in their current condition, then he/she may begin to change their current behavior. This perception may be partially reflected in D.R.'s case with his rapid increased motivation to seek help when he became aware of the manifestation of his uncontrolled hypertension as fluid in his feet. However, it is very important to note that a temporary state of discomfort in the absence of other support systems would likely continue to go unnoticed and passed over. Perhaps more effectively, priority should be given to a multidisciplinary effort in aiding an individual's to develop their own motivation by (1) assessing their 'state of change'-pre-contemplation, contemplation, preparation, action, and maintenance (2) and developing skills to achieve goals. To achieve such goals, it is critical to understand that as healthcare providers we cannot force or inflict motivation on our patients. Rather, a unique approach emphasizing a consistent presence, constant trust, and multidisciplinary care in unison with a patient's willingness that we can create an individualized patient environment conducive to change, even in the context of a severe mental illness such as MDD.

A holistic level of care that takes into consideration social circumstances ultimately increases the likelihood to maintain a therapeutic alliance and enhance treatment compliance. The UCLA mobile clinic project recognizes that the transient nature of homelessness might compromise continuity of care and challenge routine management of hypertension and other chronic medical conditions. As a result, a specific hypertension 'fast-track' protocol has been developed for continuity patients that includes a quick blood pressure check, prescription of long-acting antihypertensive medications, and positive incentives to encourage follow-up (food, drink, hygiene kits, bus tokens). Given the risks associated with antihypertensive medications as well as other social factors that may limit treatment adherence such as substance abuse, medications are only provided to patients who return to clinic on multiple visits, as well as dispensing smaller amounts of medications to patients to ensure closer follow-up. In this way, we can begin to foster collaboration and care coordination.

Week after week, the UCLA mobile clinic project continuously engaged in conversation with D.R. Many times, D.R. did not even specifically sign-up to be seen by the medical student, caseworker, and attending physician team. On these occasions, D.R. would come to clinic for other resources provided, such as a hygiene kit or clothing. At times, D.R. was just around for a bite to eat. Regardless of the reason, our clinic made consistent and ongoing attempts to connect D.R. to care and used motivational interviews to encourage regular follow-up. Our clinic understood D.R.'s history with MDD. We acknowledged his difficulty and self-perceived inability to physically get himself to a new location for care that he did not believe he needed. Most importantly, we formed and maintain a long lasting trusting relationship with D.R., providing continued weekly personal support. It is key that we must be consistent in our presence to be able to assist these individuals to make the change when they are ready.

When working with underserved populations, it becomes imperative to prioritize the social background of the clients and not just their medical conditions. As a result, the UCLA mobile clinic project model system employs a multidisciplinary approach-incorporating medical students, attending physicians, public health students and most importantly, undergraduate caseworkers. Through this collaborative effort, we are capable of treating mild to moderate acute medical conditions, but the main priority is transitioning the clients to a more stable medical home. One of the most important and novel aspects of this clinic model is the extensive database of referrals consisting of over 150 sites that provides medical, social and legal services. With the understanding that this clinic is merely a safety net, we must focus on connecting our clients to higher-level care. With that said, we have had success transitioning many of our clients, specifically to a local low-cost integrated healthcare center, Saban Community Clinic-Melrose, for follow-up care. The UCLA mobile clinic project is directly linked with Saban Community Clinic-Melrose due to a unique position in which our volunteer attending physicians are affiliated and function out of Saban as well. The benefits of developing a 'same provider, different location' system is two-fold: (1) provides a direct path to higher-level care (2) enables us to maintain this trusting relationship. Additional resources available to streamline and facilitate this process include bus tokens or a taxi ride for patients who need transportation assistance.

Our progress with D.R. should be considered in the context of multiple limitations. We were limited by only weekly clinical services, his uncertain attendance to our clinic, and rapid turnover of caseworkers. Had we been able motivationally interview D.R. on a more frequent basis, it is possible quicker progress could have been made. In addition, we were never able to contact D.R. outside of our clinic setting given his lack of electronic forms of communication. Despite these limitations, our case report highlights a novel referrals model system-same provider, different locations-and its efficacy in managing a chronic medical condition in the face of a severe mental illness such as MDD. However, there is still an immense amount of work to be done. We want to be able to tailor our services to our

patient's convenience with their current location often being a priority, as our patients come from all over Southern California. Therefore, our future goals include developing a network of volunteer physicians that collaborate with a multitude of clinics beyond just the Saban Community Clinic-Melrose. In this way, more patients like D.R. will no longer go unnoticed and unmanaged.

Conclusion

Mental illness is highly prevalent in the homeless population, often hindering a patient's ability to provide self-care as well as challenging our ability as healthcare providers to manage chronic medical conditions. Due to their circumstances, many individuals of underserved backgrounds have defaulted to not make their health a priority out of necessity. When this happens, health care providers are fighting an uphill battle. However, as evidenced with this case, there are victories. Change may not happen for days, weeks or even months. We must be consistent in our presence to be able to assist these individuals to make the change when they are ready. As D.R. experienced his symptoms progressing, he began to feel that discomfort and because of our clinic's consistent presence every week, we were at the right place at the right time. Proper health education of his current condition and genuine concern was able to provide him with enough motivation to overcome his MDD and seek care at Saban Community Clinic, given the unique systems put in place to ensure continued support.

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