



Hypertension & Homelessness: What Interferes with Treatment

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Homeless adults are two-to-four times more likely to have hypertension and other cardiovascular diseases, at younger ages, than either the general population or low-income adults with stable housing (Szerlip 2002, Burt 1999, Hwang 1999, Kleinman 1997, White 1997, Kinchen and Wright 1991, Wright 1990, Plantieri et al. 1990, and Gelberg 1990, as cited in Zerger 2002). Among the factors that increase their risk are poor diet and excessive use of alcohol, nicotine and other drugs that exacerbate elevated blood pressure and damage the heart. Uncontrolled hypertension (blood pressure >140/90 mm Hg) can lead to heart attack, stroke, or kidney failure.

Management of cardiovascular diseases is particularly challenging for individuals who are homeless. Dietary limitations, transience, and co-occurring behavioral disorders exacerbate hypertension and frequently interfere with treatment adherence and lifestyle modifications (McCary and O'Connell 2005, CN 2001). Approximately one in three homeless Americans has a substance use disorder, compared to one in five adults in the general population (Burt 1999). Even when sufficiently motivated to reduce blood pressure through lifestyle changes, people struggling with homelessness often have difficulty maintaining weight reduction and low-sodium, low-fat diets. Food served in shelters and soup kitchens is typically high in sodium, fat, and carbohydrates, which both cause and exacerbate hypertension; and vigorous exercise may be constrained by the lack of comfortable walking shoes and socks or common, co-occurring musculoskeletal problems secondary to arthritis or injury (Wright 1990).

Practitioners serving homeless adults report that treatment of heart disease in these patients often requires earlier hospitalization than for domiciled patients due to their greater difficulty controlling sodium and fat intake and obtaining bed rest (Fleischman and Farnham 1992). When pharmacotherapy is indicated, many homeless people resist treatment or have extreme difficulty adhering to any medical regimen – particularly those who suffer from psychiatric illnesses, mental retardation, and/or substance use disorders. Moreover, some antihypertensive medications (e.g., clonidine) are sold on the street to extend the psychoactive effects of heroin or reduce withdrawal symptoms for persons addicted to opioids. (Brammer, et al., 2004) Nonadherence is one of the most difficult challenges that clinicians face in caring for displaced individuals, as the following case vividly illustrates.

Case Description

A.B., a 58-year-old black male, presented to the homeless clinic on 12/12/05 to refill multiple antihypertensive medications prescribed by the county hospital. This patient is well known to the homeless clinic, which is located in a large homeless shelter with a substance abuse rehabilitation program. Since 1991, A.B. has intermittently used the homeless clinic for medical needs including medication refills and other episodic care. For the past two months, A.B. has visited the clinic every 1– 2 weeks with vague complaints of headache and fatigue and requests for medical leave from duties in the rehabilitation program where he works as a clothing attendant. At each visit, his blood pressure has been in the range of 180–210/100–120. He has repeatedly assured HCH clinicians that he is consistent in taking his medications and in following up with medical providers at the county hospital who prescribed them.

Psychosocial history: A.B. has been intermittently homeless 10–15 times secondary to drug use. He mentioned owning a house where his wife currently resides. Consistent with his medical history, he denied experiencing either chronic or episodic/situational depression related to crack use and homelessness. In one of many attempts to recover from addiction to cocaine, A.B. has been enrolled in the drug rehab program for the past 4 months. He visits the homeless clinic only when enrolled in the drug rehab program there. Many of the participants in this program prefer to obtain medical care at the homeless clinic rather than from their primary providers, due to restrictions placed upon their time and freedom by the drug rehab program.

Medical history: The patient stated that he had “two strokes and a heart attack” in 2001–2002. He denied a family history of cardiovascular disease. Copies of emergency room and hospital admission discharge records brought to the homeless clinic documented a ten-year history of hypertension and coronary artery disease including cerebral vascular accident, with multiple hospitalizations for hypertensive crisis. In addition, he has bilateral osteoarthritis of the knee. Diagnostics performed at the county hospital included a treadmill, adenosine myoview, and angiogram.

A.B. has been treated for hypertension since 1996 by several different providers at the county and VA hospitals who prescribed multiple medications. Records from the county hospital indicate that he was discharged in August 2002 with prescriptions for isosorbide dinitrate (anti-anginal agent for CAD), clopidogrel (antithrombotic agent), benazepril (antihypertensive), atorvastatin (cholesterol-lowering medication), and ibuprofen 800mg as needed to control discomfort associated with osteoarthritis. The patient is allergic to aspirin. It was apparent from the records that he was inconsistent with medical follow up and adherence to prescribed medications, despite his assertions to the contrary.

On 9/20/02, he was referred by the homeless clinic to the county hospital emergency department for hypertension with possible CVA; the discharge diagnosis was “transient ischemic attack.” In 10/02, A.B. went to the hospital ER without a referral, complaining of “dizziness.” A myocardial infarction was ruled out and his dizziness was thought to be related to high blood pressure.

Current treatment for hypertension: To control his elevated blood pressure, the HCH provider prescribed combination drug therapy on 1/06, in accordance with JNC 7 guidelines – atenolol (beta-blocker), nifedipine (calcium channel blocker), and ramapril (ACE inhibitor) – but repeat blood pressure checks demonstrated no improvement. A.B. continued to visit the homeless clinic with complaints of headache and fatigue.

On 2/14/06, the patient was asked to bring all his medications to the homeless clinic so the HCH provider could review his current medical regimen. He returned with two full vials of medications given to him at the homeless clinic, but none prescribed at the county hospital. A.B. admitted that he had not followed up with his hospital provider in months and had been fabricating a story all this time regarding his consistency in taking prescribed medications. He gave no reason for this behavior. Extensive patient education was provided on his comorbid conditions and the need for medication consistency. A.B. was also reminded, once again, to make follow-up appointments with a primary care provider and a cardiologist at the county hospital. Referrals were made for immediate follow up, explaining the patient’s circumstances. A.B. agreed to see them the next day.

Three days later, A.B. again presented to the HCH clinic with a complaint of fatigue, admitting that he was not taking his medications and had forgotten to follow up with his providers. He was also frank about his understanding of hypertension and the importance of taking medications to control it, but claimed his body was designed to withstand high blood pressure (“I always run high blood pressure; it’s not a big deal”).

Assessment: The patient is currently being evaluated by medical and mental health professionals for poorly controlled hypertension, possible multi-infarct dementia, substance abuse (crack cocaine), and cardiovascular disease. In the judgment of the homeless clinic provider, a cognitive deficit is the most likely explanation for

his nonadherence to prescribed treatment. Medication misuse is not suspected; the patient is believed to be incapable of duplicitous behavior, and his medications have little street value.

Plan of care: The following strategies were developed to help A.B. adhere to prescribed treatment and follow up more consistently with his medical providers:

- More aggressive case management by a multidisciplinary clinical team, including assistance from the patient's chaplain and care coordinator to monitor adherence and help him make and keep appointments for diagnostic testing and follow-up care.
- Encourage involvement of the patient's estranged wife in his care.
- Encourage the patient to return to the homeless clinic daily for administration of medications.
- Assess the patient's understanding of and beliefs about his illness and need for health care.

Discussion

This case illustrates a frequent occurrence in homeless clinics across the country. Many displaced individuals come to the clinic to address physical ailments, such as headache or fatigue. Management of the chronic medical problems underlying these symptoms, which may lead to serious impairment if not treated, usually is not the first priority for these patients. Accommodating such patients is always challenging for clinic staff, whose primary task is to help them understand the natural process of chronic disease, morbidity associated with it, and the importance of interventions to prevent further impairment.

Priority should be given to a multidisciplinary team effort, to establish individualized patient goals and develop different strategies to accomplish them in collaboration with the patient. Goals should be consistent with, if not exclusively focused upon, addressing the patient's medical problems. In this case, the main problems that staff had to address were A.B.'s uncontrolled hypertension, possible dementia, and the etiology of his apparent cognitive deficit. A multidisciplinary team was involved in developing and implementing a case management strategy. This included encouraging the patient to return to the homeless clinic each day for directly-observed treatment, contacting his chaplain and care coordinator to facilitate his follow-up care, and contacting his primary medical providers at the county hospital to develop a long-term plan to better coordinate services for this patient.

At each visit to the county hospital, the patient has seen different providers. The HCH clinic refers patients to the triage center in the hospital emergency room, staffed by medical residents who provide referrals to specialty clinics as needed. If a patient has a cardiology appointment, he may see a different cardiologist at each visit. Apparently, A.B. has not seen a cardiologist for some time and has no primary care provider of record. It is apparent that he doesn't have designated follow-up care by one provider. Optimally, the patient should have a single medical provider to coordinate his cardiovascular care – at the homeless clinic or the county hospital, but not both. One alternative under consideration is for the patient's hypertension to be managed entirely by his hospital providers and for HCH clinicians to take the lead in case management, including assistance with treatment adherence and provision of transportation to medical appointments, if necessary.

In order to achieve such goals, it is very important to understand that this patient does not come to the clinic for treatment of hypertension, but for the management of associated symptoms (headache, fatigue, and diminished capacity to do regular work). Focusing solely on the underlying medical condition without addressing his immediate concerns may undermine the patient's trust and discourage him from returning to the clinic at all. Building and maintaining a therapeutic relationship based on trust requires understanding the patient's concerns, while continuing to educate him about the caregivers' concerns. Optimally, a holistic approach should be used in which patient and staff work together toward attaining a mutually acceptable goal.

Caregivers' concerns about this patient's uncontrolled hypertension have not yet been resolved. Nevertheless, A.B. continues to participate in the homeless clinic's drug rehabilitation program, and a multidisciplinary clinical team continues to work with him to minimize the risk of heart attack or stroke. The drug rehab program has on-site, full-time medical coverage by the homeless clinic staff to manage medical issues. Licensed clinical psychologists and psychology interns are also on site to manage mental health issues. They do not prescribe medications, but work closely with a mental health agency that provides licensed psychiatrists for medication administration and monitoring. The patient's chaplain is a trained substance abuse counselor.

It has taken some time to sort out this patient's needs, but he is now being aggressively evaluated for mental health as well as medical issues. With a team effort, we hope to improve his ability to care for himself and decrease his morbidity/mortality risk. Maintenance of an ongoing therapeutic relationship, however intermittent it may be, is fundamental to the plan of care.

Take Home Message

The experience of homelessness may present numerous obstacles that complicate treatment of chronic disease, which often require a coordinated, multidisciplinary approach to care.

- *Recognize that the transient nature of homelessness may compromise continuity of care and make good, routine management of hypertension less likely than episodic, crisis care.*
 - Check blood pressure whenever clients come in. Target is <140/90 mm Hg for uncomplicated hypertension, < 130/85 mm Hg for patients with co-occurring diabetes, 125/75 mm Hg for those with renal disease.
 - If possible, prescribe long-acting antihypertensive medications that can be taken once instead of several times each day.
 - Use positive incentives to encourage follow-up – e.g., food and drink (or vouchers for same), hygiene products (toothpaste, brushes, socks), subway/bus cards or tokens.
 - Work with case managers and outreach workers to facilitate treatment adherence and follow-up care, including referrals to other facilities.
 - Provide each patient with a pocket card listing latest test results, vital signs, and current medications to document medical history for the next care provider.

- *Be aware that substance use disorders, frequently seen in homeless patients, are medical problems that contribute to cardiovascular disease.*
 - Explain the risks associated with hypertension and substance abuse. Use motivational interviewing to promote readiness for concurrent treatment of substance abuse and high blood pressure.
 - Be aware that patients sometimes sell their antihypertensive drugs. Swollen feet and fluid in the lungs in patients with heart failure may indicate that they are not taking their meds.
 - Dispense smaller amounts of medications to patients known to “lose” them; this not only improves their chance of adherence, but allows for closer follow-up.
 - If misuse of prescribed medications is suspected, consider limiting the patient's access to prescription drugs to a single pharmacy or provider.
 - Keep lines of communication open and encourage regular follow-up, even if the patient does not adhere to treatment.

- *Foster collaboration and care coordination among hospitals and primary care providers.*
 - Follow up with other medical providers to whom the patient is referred.
 - Consider using electronic medical records, if feasible, to promote continuity of care among multiple service sites (e.g., clinics, hospitals, drop-in centers, and outreach sites).

- *Consider the possibility that cognitive deficit secondary to chronic disease, substance abuse, trauma, mental illness or medication side effects may limit the patient's understanding of the disease process and compromise adherence to treatment.*
 - Tailor the plan of care to patient needs and capacities.
 - Employ a multidisciplinary case management team.
 - Help the client set small goals; break complex tasks into simple steps.
 - Schedule more frequent follow-up visits (daily, if necessary).
 - Use memory aids to help the client remember treatment schedule and follow-up appointments.

(Brammer et al. 2004; CN 2003)

Sources & Resources

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