

Are we satisfied with the follow-up of hypertensive and chronic kidney disease patients in outpatient clinics?

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Abstract

Hypertension and chronic kidney disease constitute major health problems as they are associated with increased morbidity and mortality. Large-scale clinical trials, have emphasized the need of a strict blood pressure and early recognition of kidney disease to reduce the complications. However, the rate of hypertension control seems to be low, the prevalence of hypertension and chronic kidney disease steadily increases, indicating a gap in the management of those patients. This is due either to a poor organization of the health care system or a defective patient-physician communication. This review will try to identify possible errors in the management of hypertensive and renal failure patients in outpatient clinics and to propose ways to improve prevention and control of hypertension and chronic kidney diseases in our population. Hippokratia 2011; 15 (Suppl 1): 44-49

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Hypertension afflicts one-fourth of adults in western societies and is considered one of the most important risk factors for cardiovascular disease^{1,2,3}. Approximately 10% of adults are estimated to be in an early stage of impaired renal function, of whom 40% have a GFR less than 60 ml/min and 60% show elevated albumin excretion (>30 mg/g creatinine)⁴. Chronic kidney disease affects more than 20 million US adults while more than 79,812 chronic dialysis patients die each year in the United States, with an annual unadjusted mortality rate of 20 to 25%^{5,6,7}. The prevalence of hypertension in patients with chronic kidney disease is estimated to be more than 60%, and more than 90% in patients with advanced renal failure (Stage IV and V)^{8,9}. Numerous large-scale clinical trials, such as the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) and the Hypertension Optimal Treatment (HOT) trial, have demonstrated the benefits of blood pressure control to reduce cardiovascular mortality and morbidity in patients with hypertension and especially in those with chronic kidney disease¹⁰⁻¹².

Despite the scientific knowledge and the therapeutic modalities that have already been accumulated and developed over the past five decades, the prevalence of hypertension is predicted to further increase reaching 26% at 2020 compared to 24% at 2010. Of note, in renal patients the rate of hypertension control has been particularly low^{7,12,13}. This may indicate that something wrong still exists in the prevention, early detection and proper management of those patients.

A large number of studies try to identify and resolve problems existing either in the organization of the health care system or in the contact of the patient with the system. Problems in public awareness, in informative communication with the physician and in establishing stable follow-up appointments, all need to be clarified and solved, if we want to improve the management of hypertension and kidney disease on an outpatient basis.

This review will try to identify possible errors in the management of hypertensive and renal failure patients at outpatient clinics, and to propose ways to improve prevention and control of hypertension and chronic kidney diseases in our population.

Outpatient Services

Hypertension and Renal Outpatient Services are hospital-based outpatient clinics, located on the main grounds of the hospitals, owned by the hospital and operated by their staff. They are primarily engaged in providing outpatient health services that furnish diagnostic and therapeutic care. This includes medical history, physical examinations, assessment of health status, treatment and monitoring of patients' cardiovascular and renal conditions.

In addition outpatient clinics offer an opportunity for residents and fellows to expand their experience in the care of patients of the community, skills that will be very important when they develop their own private practice. Dr. William Schwarch, the first director of the Renal Division at Tufts University/New England Medical Center

in Boston put tremendous efforts to organize the Outpatient Clinics of the division, because he believed that outpatient care is important for the community, the referral physicians and the prestige of the Division. In fact, even today the William Schwarch Division of Nephrology advertizes its training program, as one that “offers an outpatient care experience unlike any other”.

What are the characteristics of a successful outpatient program? Most important, one should maximize patient's satisfaction, while making any effort to minimize their difficulties. The waiting list can decrease by increasing the number of doctors and nurses and by extending the function of outpatient clinics for at least eight hours daily (4 in the morning and 4 in the afternoon). Patient's transport to outpatient clinics impacts upon clinic arrival times. Thus the hospital should provide easy accessibility in all patients, providing shuttle buses from parking lots or public transportation stations, and make arrangements for ambulance services if necessary. Patients should not be allowed to arrive ‘early’ to beat the system or late because of appointment time. There should be the appropriate number of well equipped, clean and quiet examining rooms, and signs to indicate patient's itinerary. Doctors should start their work at outpatient clinics on time, otherwise one should reorganise the clinic start times. Patient records should be available and prioritised.

Surveys of number, length and timing of visits, length of consultation for both new and for continuing patients, clinic start and end times are necessary to control quality of service and plan changes for improvements.

Patient's evaluation

The first step in the evaluation of a patient is a detailed personal and family history and a full physical examination, which is even more needed in high risk patients, such as obese individuals or patients with chronic kidney disease. Blood pressure measurement is often omitted in children, adolescents and young adults despite being a clear predictor of atherosclerosis in later adult life^{2,14}. The term of “prehypertension” strengthens further the need for blood pressure measurement not only for prevention or early recognition of hypertension, but also for predicting vascular mortality^{1,2}. However, Bell et al. showed that patients with hypertension were informed about this diagnosis in only 35.8% of their visits and discussed about this entity in only 25% of their visits¹⁴.

In order, to increase, however, the favorable outcome, patients should be informed about their disease regarding the nature, the complications and the overall morbidity or mortality. Recent clinical studies have raised doubts as to whether patients are truly informed. The adherence to the management was related to the patient awareness of the benefit of the treatment to the blood pressure control and the improvement of the cardiovascular risk. However, Bell et al, showed that the benefit of the treatment and the risk of complications were discussed in only 17.5% and 22.5%, respectively, of their visits¹⁴. In addition, only 3 in 10 patients were informed or reminded of the health

implications of hypertension while a majority of treated patients received no message of reinforcement about the value of the medications in reducing mortality or morbidity^{14,15,16}.

The early stages of renal function impairment are clinically silent and are diagnosed only by measuring of external filtration markers, such as serum creatinine and urinalysis. Since serum creatinine levels depend both on the rate of elimination by the kidneys (glomerular filtration rate, (GFR), and the rate of production from the muscles, serum creatinine by itself is not considered a reliable measure of renal clearance. Thus, simple mathematical formulas have been developed to calculate GFR in relation to patient's characteristics, such as weight, gender and age^{8,17}. Unfortunately, these formulas are not routinely performed in most outpatient clinics, and many patients with serum creatinine within normal limits, but decreased GFR are not classified properly, thus disrupting seriously the process of prevention and early recognition of renal disease. The same is true in the case of urinalysis, where trace proteinuria is not properly recognized as evidence of already existing renal disease. Finally, microalbuminuria is not measured routinely in patients followed in Hypertension or Renal Clinics, although in this population is the cheapest, easier and more precise predictor of renal damage and cardiovascular morbidity and mortality^{8,17}. Similarly, possible secondary forms of hypertension are not investigated, even in patients with severe and resistant hypertension, despite treatment with three different classes of antihypertensive medications including diuretics. For instance, 5-17% of hypertensive patients had hyperaldosteronism which was not investigated at the time of diagnosis and can be cured¹⁸.

Patient's treatment

The first counseling aims to lifestyle changes as the initial approach for first-diagnosed patients or as an adjunctive therapy in treated hypertensive and renal patients. This includes, quit smoking, a healthy lifestyle, weight loss and weight control, physical activity, and limited use of sodium and alcohol. This intervention is quite important either on the management of hypertensive and renal patients in order to decrease the cardiovascular morbidity and mortality¹⁹⁻²¹.

However, Bell et al, showed that lifestyle changes were offered as an intervention in only 76.7% of their visits and most commonly in young compared to aging patients. Exercise was advised in 54.2%, healthy dietary habits in 38.3%, weight loss in 30.8%, salt reduction in 14.2%, stress management in 14.2%, quitting smoking and alcohol in 19.2% and 15%, respectively, all of them positively correlated with the visit time¹⁴. In accordance, Mellen et al, in a study on physician surveys, found that exercise and nutrition counseling was not provided in 74% and 65% of visits, the number being more increased in older persons²². Thus, patient unawareness and defective patient-physician relationship explain in a large degree the low patient adherence which complicates those health problems below.

Especially patients with kidney failure are expected to follow many complicated dietary, lifestyle, and medical guidelines. The more those patients are motivated, the better their compliance with these guidelines and the better their outcomes. In Canada, for instance, a multidisciplinary predialysis education program intervention resulted in fewer urgent dialysis starts and fewer hospital days early in dialysis²³. In another study, dialysis patients with diabetes who received specific diabetes education had better glycemic control and fewer complications than those who did not receive the same education²⁴. Finally, at Hadassah Medical Center in Israel special outpatient clinics operating 24 hours a day keep patients with end-stage renal disease just prior to initiation of extracorporeal dialysis or patients recently undergone renal transplantation out of the hospital, thus dramatically reducing medical cost.

Physician to Patient's Relationship

Over the past years, the biopsychosocial model of health has been introduced, emphasizing the need to treat the patient as a whole person²⁵. The increasing awareness of psychological, sociological and behavioural components in managing health care has expanded the context of medical interviewing^{26,27}. Essential elements of the physician-patient relationship include verbal and nonverbal communication, effective questioning and transmission of information (task oriented behavior), expressions of empathy and concern (psychosocial behavior), and partnership and participatory decision-making²⁸⁻³⁰. The United States Medical Licensing Examination includes assessment of communication skill, and the Accreditation Council for Graduate Medical Education and American Board of Internal Medicine require training and evaluation in communication skills for residents. However, this is not the fact in many other countries all over the world³¹.

Through physician-patient communication, which is an essential component of the medical care process^{32,33}, patients are informed better about the disease and the therapeutic regimen, they are encouraged and supported in their motivation, and they offered assistance in gathering and using needed resources to adhere³⁴.

Effective physician-patient communication is linked empirically to outcomes of care including patients' satisfaction, health status, recall of information, and adherence^{35,36}. A study in aging patients (n=333, mean age 69 years) with hypertension and chronic kidney disease showed a positive correlation between patient satisfaction from a nice physician-patient communication and adherence, follow-up and achievement of the treatment goals³⁷.

Summarizing a total of 127 studies, a meta-analysis supports the significant role of the patient-physician communication to the patient adherence to the treatment³¹ by improving the transmission and retrieval of important clinical and psychosocial information^{38,39}, facilitating patient involvement in decision making^{40,41}, allowing

open discussion of benefits, risks, and barriers to adherence⁴²⁻⁴⁶, and building trust, support and encouragement⁴⁷. As a result, efforts have been made to redefine the patient-physician relationship as a partnership characterized by collaboration, shared decision making, and negotiation, and to promote disclosure of patients' agendas, expectations, and desires⁴⁸⁻⁵⁰.

Patient adherence—the degree to which patients follow the recommendations of their health professionals—is a salient outcome of the process of care. Poor adherence limits the effectiveness of established therapies for individual patients and for the population, represents lost opportunities to reduce adverse events and improve health and can adversely affect hospitalization risk and healthcare costs⁴⁹.

It has been shown that 1/3 of US patients exhibit low adherence to the suggested antihypertensive treatment. In addition, fourteen percent of the prescriptions do not reach to the pharmacy, 13% buy the medications but do not start on and 15-60% stop the treatment after 1 year⁵¹. In one study persistence with antihypertensive therapy was decreased in the first 6 months after the time that this was started and continue to decline over the next 4 years. Among patients with newly diagnosed hypertension, 78% were persistent at 1 year and only 46% at 4.5 years while patients with established hypertension generally showed higher persistence rates (97% and 82%, respectively)⁵².

The World Health Organization proposes that adherence is affected by many factors including: (1) health care system or provider-patient relationship, (2) disease, (3) treatment, (4) patient characteristics, and (5) socio-economic factors⁵³. Scherwitz et al. examined encounters involving 11 physicians and 267 hypertensive patients and found that doctors tended to provide information about newly prescribed medications, but included a justification for taking the medications only one-fifth of the time⁵⁴. Kjellgren et al. analyzed audio-recordings of 51 consultations between physicians and hypertensive patients and found that patients were passive, asking few questions and initiating few topics; risks of hypertension were rarely discussed¹⁶. Bakhour et al found that even among patients with uncontrolled blood pressure, primary care physicians made no attempt to assess education taking in one-third of visits⁵⁵.

The Health Belief Model predicts that adherence will be greatest when patients both understand the health consequences of uncontrolled disease and believe that their treatment constitutes an effective response to this threat^{10,11,56,57}. The Medication Adherence Model suggests that adherence begins with counseling that convinces the patient of the need for and safety of prescribed medications⁵⁸. Although physicians' interactions with their patients are assumed to be a critical factor in adherence^{59,60}, few studies have been reported on how physicians and patients actually talk about hypertension and its treatment, and all but one have been restricted to primary care¹⁶.

Doctors have to routinely attempt to determine if patients are adherent to their medications, a practice not

usually followed by most physicians. Bell et al showed that the adherence was evaluated directly in 62.7% and indirectly in 14.5% of the patient visits while no any concern was found in 22.9% of their visits. However, when excluding cases in which the patient volunteered information about their level of adherence, the adherence was neglected in only 13.3% of visits¹⁴.

Role of the nonmedical personnel

Even if the physician spends more time with the patient could not fulfill all his needs. Therefore, a multidisciplinary team approach has been introduced in most modern outpatient clinics including dieticians, psychologists, social workers, nurses and educators, as needed. Bengston et al reviewing articles from 1966 to 1997, showed the important role of the nurse assistance in the hypertensive patient management. Patients under the nurse's care could better achieve their goals for salt reduction, weight loss, cessation of smoking, physical exercise, proper use of their medications and reduction in the appointments with their physician⁶⁰.

The important role of nurses in the management of patients either at the medical or the psychosocial level has been emphasized in the case of hemodialysis patients^{61,62}. The nurse can serve as a reinforcement for the treatment plan that physicians prescribe for hypertensive patients. Nurses can educate patients on the importance of adherence, as well as discuss concerns and issues that the patients may have with regard to their disease and treatment. In the Short-Term Hypertension Care Clinic at the Mayo Clinic in Rochester, Minnesota, USA, the nurses, over a period of 3–4 days after diagnosis, under physician supervision, adjusted drug doses and educated the patients on a variety of hypertension-related topics, including adherence⁶³. At one year, the percentage of patients who reached blood pressure control increased from 0% at baseline to 63%^{64,65}. Education by nonmedical personnel may enhance the quality of patient care because nonmedical workers may be better trained in patient communication skills. However, this type of education should not replace needed guidance by medical personnel.

Improvement of Outpatient Services

The question always remains whether there is room for improved performance in these services and how much? Access to services can be improved by increasing capacity, but also by increasing the utilization of the existing capacity. The systematic organizational changes and the implementation of clearly defined clinical and administrative policies and procedures can impact favorably upon the intake, referral and treatment of outpatients. For example, organization and operation of specialized multidisciplinary outpatient clinics, such as for diabetic nephropathy, renal transplantation and cardiorenal syndrome with anemia could provide global care during the same visit, thus eliminating the need for multiple appointments and congestion of hospital services. In Greece, the

intake waiting time via the Universal National System is more than 30 days for initial screening and evaluation, therefore, a parallel system of booking appointments for the special multidisciplinary clinics outside the national system had to be organized by each particular Clinic.

The improvement of the physician to patient's communication and an organized follow-up system are necessary. An holistic approach of the patient from a team of medical and nonmedical personnel is needed. In addition, efficacious medications that facilitate good medication-taking behavior through simplified dosing and placebo-like tolerability, along with the development of programs to detect poor medication adherence and to support long-term medication persistence in daily practice should be encouraged. Furthermore, appropriate therapeutic interventions should be instructed in those patients, each time depending on the personality and the adherence of each one.

Conclusion

Hypertensive and renal patients which are followed through the Outpatient Services seem to be inadequately evaluated and advised, leading to defective control of the disease despite the increased number of therapeutic modalities. However, more studies needed to be done focused either to the evaluation of the quality of the follow-up of renal and hypertensive patients or the identification of factors which could be improved making the follow-up better.

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