

Patient Psychological Defenses and Physician Response in the Long-Term Treatment of Hypertension

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Increasing interest in recent years has focused on the large numbers of patients with the common problem of arterial hypertension who discontinue therapy or remain under poor control. Although we are now seeing new efforts to address this problem through patient and physician education, little attention has yet been paid to the psychological factors in the doctor-patient interaction involving patients with this chronic disease. This paper reports a study of hypertension in all patients between 40 and 60 years of age in one family practice. Compliance indices are determined for these patients as well as physician factors, patient factors, and medication factors which contribute to poor control of blood pressure. Psychological defenses by patients can readily limit the effectiveness of anti-hypertensive therapy. Insight and understanding are required of the physician in dealing with these issues and affording patients with hypertension the best possible long-term control of blood pressure.

High blood pressure is one of the most prevalent chronic diseases among adults. Professional and governmental concern is now directed at the fact that many persons diagnosed as having arterial hypertension have discontinued therapy or have remained on therapy but under poor blood pressure control.¹ A growing literature suggests that the control of hypertension can be improved by patient education,² physician education,³ and by procedures that make treatment more convenient for the patient.⁴ Unfortunately, even the few programs which have better blood pressure control results still have a sizeable proportion of patients voluntarily stopping therapy, omitting doses of medication, or otherwise failing to achieve good blood pressure control.^{2,5}

In the course of a quality of care audit of one private, middle income family practice, we were impressed by the frequency and importance of patient psychological defenses as a

contributor to poor control of hypertension. Especially important was the degree to which patient resistance led the physician to curtail his treatment goals. While patient psychological defenses have been explored in the context of some disease conditions,^{6,7} they have received little attention from those concerned with the control of hypertension.

The findings reported herein are the results of an exploratory study, and as such must be deemed tentative. However, the data strongly suggest that current anti-hypertensive campaigns, which are primarily oriented toward screening, education, and administrative interventions,^{8,9} can at best achieve only partial success. The results of this exploratory study strongly imply that the issue of psychologically-based patient resistance must also be resolved if the hypertension "problem" is to be solved.

Method

The study was based on one private family practice in a suburban setting. The physician had an excellent reputation in the community and had

demonstrated his concern by offering his practice as the subject of an audit. He had used the Problem-Oriented Medical Record in his practice for about two years. The patients studied were white, middle income, and high school or college graduates.

All charts of patients aged 40 through 60 who had been seen at least once since January 1, 1970, were reviewed. Those with a problem of hypertension listed on the front of the chart (53 patients) were classified according to the severity of hypertension and according to the degree of blood pressure control. The median time period since hypertension was first noted in the chart was three years.

Patients were classified according to diastolic blood pressure as follows: *mild* hypertension = 95-99 mm Hg diastolic; *moderate* hypertension = 100-109 mm Hg diastolic; *severe* hypertension = 110-119 mm Hg diastolic; and *very severe* hypertension = 120+ mm Hg diastolic. If more than one blood pressure was noted prior to treatment, classification of severity was based on the second highest diastolic pressure. Otherwise, the highest pretreatment blood pressure was used. If the patient was on medication when first seen, classification was based on the highest diastolic blood pressure. However, if the patient was already well controlled on medication when first seen, the patient was classified as of unknown severity.

Outcome was assessed according to the typical diastolic blood pressure, excluding the initial months of therapy, as follows: *good control* with diastolic less than 95 mm Hg; *fair control* with diastolic of 95-99 mm Hg; and *poor control* with diastolic over 100 mm Hg. Usually, the majority of blood pressure readings fell clearly within one outcome category. When control differed over the years, outcome was assessed on the basis of the typical blood pressures during the last two years. In three cases, blood pressures fluctuated widely from visit to visit. In those cases, outcome classification was based on the arithmetic mean of all blood pressures taken for the last year.

Patients who dropped out of treatment within the first four months after diagnosis were called "early drop-outs." Persons remaining in therapy for five months or more were termed

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"late dropouts" if, as of February 1, 1974, they had not been seen for three months and had been in poor control on their last visit. Patients in good or fair control on their last visit were called "late dropouts," if they had not been seen for six months as of February 1, 1974.

Patients whose initial blood pressure met criteria for moderate, severe, or very severe hypertension (42 patients) were subjected to further analysis. One physician, who was not involved in the patients' treatment, reviewed each chart and interviewed the primary physician. The reviewing physician (in one third of cases) and a trained volunteer (in two thirds of cases) administered a test of knowledge about high blood pressure to each patient and also gave each patient an opportunity to make an open-ended comment about his attitudes toward, or problems with, high blood pressure and its therapy.

Subsequently, the reviewing physician examined the notes from chart review, physician interview, and patient interview. On the basis of his judgment, the reviewer identified and described factors contributing to poor blood pressure control, grading them in each instance as major or minor contributors.

A major contributor to poor control was a patient factor called the Disease Denial-Rationalization Syndrome (DDR). The DDR syndrome was noted when the patient appeared to deny the fact of his hypertension or the necessity of treatment despite awareness of medical "information" to the contrary. Evidence of a major DDR syndrome was accepted only when corroborated by the patient's own open-ended interview statement. Mild avoidance, eg, occasionally forgetting an appointment, was classified separately.

Those patients who regularly obtained their medication from cooperating pharmacies (23 patients) were subjected to an estimate of their medication-taking compliance. Compliance was inferred from the compliance index, calculated by forming the ratio of the number of medications dispensed from the pharmacy (numerator) over the number which should have been taken as calculated in the chart (denominator). The compliance index was compiled over a period extending six months after and up to

Table 1. Outcome of Treatment by Severity of Hypertension

Outcome of Treatment	Initial Severity of Hypertension					Total
	Mild	Moderate	Severe	Very Severe	Unknown	
Good	2	9	5	0	4	20
Fair	2	6	2	1	1	12
Poor	2	6	6	3	0	17
Early dropout	0	3	1	0	0	4
Total	6	24	14	4	5	53

Table 2. Compliance Indices*
(Number of Patients N = 23)

	90-110%**	75-89%	0-79%
All patients	6	8	9
Poor control	2	5	6
Good and fair control	4	3	3
Poor control + DDR***	2	3	3
Poor control; no DDR	0	2	3
All DDR	2	3	3
No DDR	4	5	6
Initial BP severe or very severe	3	3	4
Initial BP fair or good	3	5	5

* Compliance Index = $\frac{\text{Number of pills dispensed from pharmacy}}{\text{Number of pills calculated as to be taken}}$

This is a crude but reasonably accurate measure of compliance, which has been used in previous studies.⁷ It circumvents the enormous expense associated with testing urines, making home visits, etc. It is most vulnerable when the physician changes an order without noting the fact on the chart. Also hoarding of medications by the patient will yield an artificially elevated index of compliance.

** In fact, no patient had a compliance index greater than 100%.

*** DDR = Disease Denial-Rationalization Syndrome.

12 months before the chart review and interviews.

Results

Fifty-three patients had a diagnosis of hypertension, representing 12 percent of the patients in the 40 to 60-year-old age group. Of these, 34 were first diagnosed after January 1, 1970. Three of the 34 had discontinued the treatment regimen, all within the first four months, resulting in a dropout rate of nine percent.

Among the original 53 patients, 40 percent were typically under good blood pressure control. Twenty-four percent were typically in fair control. Thirty-five percent were in poor control. Table 1 summarizes the outcome of treatment by severity of hypertension. It should be noted that there was marked digital preference; diastolics of 100 mm Hg were common; diastolics of 99 mm Hg were rare. If the criteria for fair control were liberalized from 99 mm Hg to 100 mm Hg then those in fair control would increase from 24 percent to 37 percent and those in poor control would decrease from 35 percent to 22

percent.

An assessment of factual knowledge was made on 41 of the 42 patients with moderate, severe, or very severe hypertension. There was a very high level of knowledge. Every patient knew one or more of the major sequelae of hypertension and the reason for treatment of the hypertension with medications. Eighty-five percent knew that a person could feel well and still have high blood pressure. Ninety percent knew that treatment must continue for life. Ninety-two percent believed it was important to restrict salt. Eighty-six percent felt that emotional tension contributed to high blood pressure. Ninety-eight percent knew that weight control was important and 80 percent were aware of the benefits of regular exercise. All patients knew the kind and number of blood pressure medications they were supposed to be taking daily. Eighty percent knew either brand or generic names of their medicines. (NB: Their physician routinely labels all prescriptions.) The proportion of correct answers regarding the sequelae of hypertension was about the same

among those in poor control as among those in good and fair control.

Six patients (26 percent) had a compliance index of between 90 and 100 percent. (See Table 2.) Eight patients (35 percent) had compliance indices between 75 and 89 percent, and nine patients (39 percent) had compliance indices of less than 75 percent. Although those under good and fair control had better compliance rates than those under poor control, this difference was not statistically significant. In this small sample there was no impressive association between compliance and the initial severity of hypertension, the number of medications taken, or the medication schedule.

The reviewer noted one or more probable causes for each patient who dropped out of the medication regimen or who was typically in poor control. Thirty-three major physician factors and 24 major patient factors were noted. Of these, 42 (76 percent) were found among the 19 patients (46 percent) who dropped out or were in poor control. Medication side effects were common, but in only two instances were these major contributors to poor control. Tables 3, 4, and 5 summarize physician factors, patient factors and medication factors contributing to poor control of blood pressure in this series of patients.

Approximately half the physician factors contributing to poor control appeared related to antecedent patient factors, most commonly the Disease Denial-Rationalization Syndrome. DDR was noted as a major contributor to poor control among nine of 19 patients who were dropouts or who were typically in poor control. DDR was noted as a major factor in only one of 22 patients who were in fair or good control. Patients demonstrating the DDR syndrome had compliance indices which were no worse than those of other patients. In fact, two patients with DDR and poor blood pressure control had excellent compliance records (compliance index ≥ 90 percent).

Discussion

The nine percent dropout rate for the practice studied is lower than that generally reported. However, the compliance and blood pressure results are fairly typical.^{10,11}

Initially we were surprised that the

results of treatment were not better than achieved. The patients had a high degree of knowledge about high blood pressure. The physician had an excellent reputation, and superficially, the practice seemed well organized. Moreover, the organizational problems so well documented by Finnerty in hospital clinics were uncommon contributors to poor control in this private practice.³

The majority of physician factors appeared to relate neither to physician knowledge nor to practice organization. Instead there seemed to be a moderately common physician failure to pursue aggressive therapy despite a recognized poor level of blood pressure control.

We developed a rough descriptive classification of instances in which the physician did not pursue aggressive therapy. For example, when the physician's note or interview indicated that he did not increase the medication because the patient was anxious, this behavior was called the "anxiety cop-out." When obesity was the excuse, "obesity cop-out" was the diagnosis. This categorization, however, provided relatively limited understanding of the causes of so-called "dropouts." Instead, physician failure to pursue aggressive therapy most often seemed related to overt or covert resistance to therapy on the part of the patient.

In a typical interaction, the patient would protest increasing the blood pressure medications on the grounds that poor control resulted from situational anxiety. In response, the physician would postpone increasing the dosage of the medication. On the next visit the patient would again protest and again the physician would postpone what he knew was the correct thing to do. Without the physician really noticing it, months would become years and both anxiety and poor blood pressure control would remain. The power of the patient's resistance and the physician's rationalizations and collusion were sometimes noted by the physician. However, more often this was realized only in retrospect during discussion with the reviewer.

The most common patient resistance syndrome was the Disease Denial-Rationalization Syndrome. Very often the rationalization appeared plausible, but it was always

either stressed by the patient out of all reasonable proportion or was replaced immediately by other excuses as quickly as the physician discredited the original one. After a few such episodes with a persistent and unhappy patient the physician would stop protesting and, in effect, enter a kind of collusion with the patient. The patient would stop getting upset; a comfortable long-term relationship would develop, but neither patient nor physician would effectively pursue the goal of blood pressure control.

The DDR syndrome is best described by illustration:

Case 1. Mrs. D. is an intelligent, 52-year-old housewife who had been seen every two months since 1971. She took a single combination medication for high blood pressure twice a day and had not complained of important side effects. Her compliance index was 80 percent. She showed an excellent understanding of the nature and rationale for treating high blood pressure. However, her diastolic blood pressure was usually 100 mm Hg or more. The family physician several times noted in the chart that control of the blood pressure was not adequate, but he did not increase or change her medication, usually indicating that he would maintain the present dosage for another month. When asked about Mrs. D., the physician stated: "She refuses to accept the fact that she has high blood pressure or that anything is wrong with her. If I say I want to see her in one month, she says, 'Can't it be two?' If I try to raise her medication she'll say, 'Do you really think I have to?'"

The patient told the interviewer, "I know my blood pressure has been up. I had the attitude it was going to go away. But then the doctor really gave me a lecture about it. *It's still hard for me to accept that I have high blood pressure for life.* I'd rather not take so many medicines. It discourages me."

Mrs. D. is unusually aware of her rationalization. She now admits her unrealistic wish that high blood pressure would go away. Nevertheless, the physician continued to behave as if he had been conditioned by her initial strong resistance, rarely raising the question of increasing the medication.

Case 2. Mrs. A. is more difficult and complicated. She is an unhappily married 50-year-old mother of four who first presented with severe hyper-

tension in 1969. She had been in poor control on two medications taken twice a day. Her compliance index was 53 percent. She visited her physician faithfully every six weeks. Anxiety and obesity were both noted as major problems. For many years she had dieted unsuccessfully, but in the year of the study she was succeeding, decreasing her weight from 240 lb to 200 lb in the past six months.

The physician noted that Mrs. A. was always anxious and until the year of the study she had become upset whenever he urged her to lose weight. She still became upset when the physician suggested increasing the blood pressure medication. The physician had not realized that Mrs. A.'s being upset was causing him to relax his standards of therapy but, in retrospect, he thinks this may have been the case. The family physician stated that he may have postponed increasing the medication several times because he hoped that the patient's anxiety was situational. He hoped the blood pressure would be lower on the next visit, which it rarely was (the anxiety cop-out). He admitted that recently he had been reluctant to increase her medication *because* her diet was going so well. He didn't want to discourage her weight-losing efforts by upsetting her.

Mrs. A. knew all the answers to the knowledge questions. She denied major medication side effects. She then explained why she had missed her last appointment: "I've been feeling rundown ever since the fall a few months ago [she had a bruised hip, but remained fully ambulatory]. I haven't felt like coming in for my blood pressure check. . . . I missed that appointment because I gained weight and I knew the blood pressure would be up so why bother. . . . I hate taking medicines. It makes me feel like a pill-pusher [ie, hippie-junkie]. I can't help feeling it's wrong to take drugs. It's bad to be dependent on pills."

After the study period, another physician, an associate of the study doctor, tried to introduce more aggressive therapy. He suggested increasing one of the medications from twice a day to four times a day. Mrs. A. became very upset. The physician explained why he wanted to raise the medication. She seemed to accept the explanation and agreed that the anti-hypertensive medicine could not

Table 3. Physician Factors Contributing to Poor Control of Blood Pressure*

Physician Factors	Patients in Good and Fair Control [N = 22]	Patients in Poor Control & Dropouts [N = 19]	All Patients [N = 41]
Therapeutic timidity in reaction to patient upset	0(1)	5(1)	5(2)
Lenient treatment goal (no reason apparent)	0(1)	5	5(1)
The obesity cop-out	2(2)	2(2)	4(4)
The anxiety cop-out	2(2)	2(2)	4(4)
Labile hypertension dilemma	2(0)	4(0)	6(0)
Scheduling visits too far apart	1(3)	1(2)	2(5)
Failure to communicate with patient	0	2(2)	2(2)
No definite return appointment	0(1)	2(0)	2(1)
No follow-up for missed appointment	(2)	(1)	(3)
Failure to check BP	0(1)	1(1)	1(2)
Total	8(16)	24(15)	32(31)

* Major contributing factors appear first, minor contributing factors are in parentheses.

reasonably be compared to LSD. However, on the way out, she said to the nurse: "I don't like this new doctor. He doesn't make any allowances for all the strain I'm under. Doesn't he understand that is why my blood pressure is high?" The next week the physician tried again to increase the medication. Again the patient protested; again the issues were discussed. This time the patient told the nurse: "I'll give him one more chance — he doesn't care about me." She did not keep the next appointment.

Mrs. A. was less aware and far more threatening to the physician than Mrs. D. She had many excuses: "It's all from anxiety; I gained weight, so why bother — no one should be dependent on medicines." She was not above casting aspersions on the physician's judgment (or integrity) when asked to come back more often. She created many rationalizations for the physician to use in not pressing vigorous treatment. Our physician used both the obesity cop-out and the anxiety cop-out. He even used successful dieting to rationalize not increasing the blood pressure medication. Perhaps this was good judgment. After all, the original study physician had kept the patient on some degree of therapeutic management for years. The more aggressive physician promptly lost her.

However, she had been kept in the practice of the study physician at a cost. The cost was the collusion of the physician with the patient to avoid the unpleasant topic, that is, adequate control of the blood pressure.

Disease-Denial Rationalization and other psychological defenses are important in many areas of medicine. Patients with cancer, renal failure, or diabetes usually have little choice but to submit to the physician's directions. At the opposite extreme, cigarette smokers are advised to quit smoking, but there is little surprise and little social condemnation when they do not follow the physician's advice. The patient with hypertension is in an in-between area. He is expected to follow the physician's advice, but there is no effective social or biological enforcing mechanism. With such an in-between situation, one would expect psychological avoidance defenses to be most critical for the outcome and in the practice studied this seems to be the case.

The classical Parsonian model of the doctor-patient relationship^{1,2} provides for an authoritarian physician and a passive, accepting patient. In this case the patient has only a few ways in which to express resistance: covert non-compliance, finding another physician, or dropping out of treat-

Table 4. Patient Factors Contributing to Poor Control of Blood Pressure*

Patient Factors	Patients in Good and Fair Control	Patients in Poor Control & Dropouts	All Patients
	[N = 22]	[N = 19]	[N = 41]
Lack of information	0(3)	0(5)	0(8)
HBP can be symptomless	(2)	(3)	(5)
Treatment is for life	0	(1)	(1)
Low salt needed	(1)	(1)	(2)
Disease denial-rationalization	1(0)	9(0)	10(0)
Severe anxiety	(2)	2(1)	2(3)
Refractory obesity	1(3)	1(3)	2(6)
Alcoholism	1(1)	1(1)	2(2)
Minor defenses eg, dental check-up syndrome	0(2)	0	0(2)
Cost, convenience	0	2(2)	2(2)
Failure to communicate with MD	0	2(1)	2(1)
Poor attendance (no reason)	1(0)	0(2)	1(2)
Patient treatment goal too lenient	0(1)	1(0)	1(1)
Total	4(12)	18(15)	22(27)

*Major contributing factors appear first, minor contributing factors are in parentheses.

Table 5. Medication Factors Contributing to Poor Control of Blood Pressure*

Medication Factors	Patients in Good and Fair Control	Patients in Poor Control & Dropouts	All Patients
	[N = 22]	[N = 19]	[N = 41]
Major side effects	(7)	3(8)	3(15)
Psychological	(2)	2(2)	2(4)
Orthostatic hypotension	(2)	1(2)	1(4)
Low serum potassium	(1)	(1)	(2)
Gout or high uric acid	0	(2)	(2)
Gynecomastia	(1)	(1)	(2)
Other	(1)	(1)	(2)
Regimen too complicated	0	0	0
Total	(7)	3(8)	3(15)

*Major contributing factors appear first, minor contributing factors are in parentheses.

ment entirely. When a physician is more solicitous of his patient's concerns, resistance may become overt. Overt resistance in turn can drive the physician into collusion with the patient, thus avoiding mutual discomfort but doing so at the expense of good blood pressure control.

In either case, the patient's psychological defenses play a prominent role in undermining the successful treatment of high blood pressure. We

postulate that such defenses contribute both to patient non-compliance, and also to physician-mediated limitation of treatment and, thus in two important ways, to poor blood pressure control.

The psychological defenses which undermined anti-hypertensive therapy in this study practice often could not be traced to specific causes. However, several of our interviews and a review of the literature suggest that a number

of issues could be involved, such as fear of death or disability, threat to social role, and threat to sense of autonomy. Each of these may be directed at the disease, the medication or at the closeness of the doctor-patient relationship itself. In other instances, the treatment can be the victim of a patient's anger, depression, anxiety or rigid obsessive style.^{7,13}

The psychological realities do not invalidate current efforts to improve blood pressure detection, compliance, and control. However, it seems likely that psychological defenses will limit the effectiveness of programs which are directed solely toward such factors as organizational reform, physician pharmacology education, or patient information. Other approaches, directed toward psychological defenses, will also be required to maximize the effectiveness of treating high blood pressure. Further research and better physician training in the psychology of primary medical practice may have to be included as part of a successful national anti-hypertension program.

References

1. High Blood Pressure in The United States: An Overview of the Problem and the Challenge. Reprinted from The National Conference on High Blood Pressure Education. US Department of Health, Education, and Welfare Publication No. (NIH) 73-486, January 15, 1973
2. McKenney J, Slining J, Henderson H, et al: The effect of clinical pharmacy services on patients with essential hypertension. *Circulation* 48: 1104-1111, 1973
3. Finnerty FA, Mathe E, Finnerty F: Hypertension in the inner city. I, Analysis of clinic dropouts. *Circulation* 47: 73-75, 1973
4. Inui T: Effects of Post-Graduate Physician Education on the Management and Outcome of Patients with Hypertension, thesis. School of Hygiene and Public Health, Johns Hopkins University, Baltimore, 1973
5. Finnerty F, Shaw L, Himmelsbach C: Hypertension in the inner city. II, Detection and follow-up. *Circulation* 47: 76-78, 1973
6. Abram H: The psychology of chronic illness. *J Chronic Dis* 25: 659-664, 1972
7. Bowden C, Burstein A: Psychosocial Basis of Medical Practice. Baltimore, Williams & Wilkins, 1974
8. Report of The Inter-Society Commission for Heart Disease Resources: Guidelines for the Detection, Diagnosis and Management of Hypertensive Populations. *Circulation* 44(suppl): A-263-A-272, 1971
9. Stokes J, Payne G, Cooper T: Hypertension control - the challenge of patient education. *N Engl J Med* 289: 1369-1370, 1973
10. Schoenberger J, Stamler J, Shekelle R, et al: Current status of hypertension control in an industrial population. *JAMA* 222:559-562, 1972
11. Wilber J, Barrow JG: Hypertension - A community problem. *Am J Med* 52:653-663, 1972
12. Parsons T: The Social System. New York, The Free Press, 1951, chap 10
13. Blum RH: The Management of the Doctor-Patient Relationship. New York, McGraw-Hill, 1960