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10-MINUTE CONSULTATION

Poor adherence to antihypertensive drugs

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A 56 year old man has had persistently raised blood pressure readings at home and in clinic since his diagnosis of hypertension three years ago. He was diagnosed after ambulatory blood pressure monitoring, and is prescribed four antihypertensives. At a routine blood pressure review he says not to bother with another prescription because he doesn’t take the drugs.

As many as half of patients with apparent resistant hypertension do not take their prescribed drugs.1 Consider non-adherence in those taking antihypertensives with elevated blood pressure readings particularly in those with apparent resistant hypertension, where blood pressure is persistently ≥140/90 mm Hg despite taking ≥3 titrated antihypertensive drugs including a diuretic. Biological resistant hypertension affects around 10% of those treated for hypertension in the United Kingdom, and such patients need specialist management. Attempt to identify and manage poor adherence before referring the patient to a specialist.

What you should do

To find out about adherence to drugs ask patients questions such as: “I know many people have difficulty taking their medicines, how do you manage yours?” or “Take me through your medications.”

The rate that patients are prescribed or collect their drugs can also provide information on adherence. In patients whose blood pressure remains uncontrolled despite multiple (≥3) antihypertensive drugs consider referral to a specialist hypertension clinic for directly observed therapy, where a patient is observed taking their drugs while having their blood pressure measured during and afterwards,1 or toxicological analysis of urine. Explore to what extent and why the patient is not taking the prescribed drugs. The table shows factors identified in observational studies that are associated with non-adherence and could provide a framework for discussion.1 If the patient declines treatment you can explain: “I respect your decision not to take drugs for your blood pressure, but I would like to explore the reasons behind this decision so that I can support you in this choice.”

What you should cover

Discuss risk

Hypertension is generally an asymptomatic condition and patients might not understand the clinical course of hypertension and the reduced risk of harmful consequences with lifestyle and medical therapies. The risk associated with increasing blood pressure is continuous. Each 2 mm Hg rise in systolic blood pressure is associated with a 7% increased risk of death from ischaemic heart disease, and a 10% increased risk of death from stroke for people aged 40-69 years.2 Avoid using descriptive terms when explaining risks to patients. Use absolute numbers with visual aids and consistent denominators. For example, “In a population of 100 people aged 40-69, with every 2 mm Hg rise in blood pressure, 10 people are at risk of dying from a stroke and seven people are at risk of dying from heart disease such as a heart attack.”

To help patients understand what that means for them calculate their QRISK2 score (https://qrisk.org). For example, the QRISK for a 56 year old man with no other associated risks is 7.9% over 10 years. This can be explained by: “In a crowd of 100 people with the same risk factors as you, eight are likely to have a heart attack or a stroke in the next 10 years.” Supplement this information by showing patients the visual representation of their estimated risk displayed on the QRISK website (fig 1⇓).

Discuss lifestyle

If “medication burden”—taking large numbers of drugs—is identified as a contributing factor to a patient’s suboptimal adherence, then it might help to revisit lifestyle changes that help lower blood pressure with him or her. Talk about the blood pressure reductions that might be expected from different

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This is part of a series of occasional articles on common problems in primary care. The BMJ welcomes contributions from GPs.
lifestyle modifications. A reduction in salt intake of 4.4 g/day on average reduces blood pressure by 5/3 mm Hg (systolic/diastolic). Two medium slices of white bread, two rashers of bacon, a packet of crisps, and half a cupful of baked beans altogether contain 4.4 g of salt. A systematic review and meta-analysis showed that there is a trend towards less sodium in the diets of a substantial number of US citizens. Dealing with multiple lifestyle modifications simultaneously has been shown to be more effective than a sequential approach, and may have a cumulative effect on blood pressure reduction.

Discuss medication

Determine how the patient is managing his or her drugs. Pay particular attention to the side effects of the drugs, the dosing frequency, and number of different drugs. A reduction in the number of drugs could be negotiated, aiming for a higher, more realistic blood pressure target. The expected blood pressure reductions achieved on drugs can be quoted on the basis of a meta-analysis of 147 randomised controlled trials. It depends on the patient’s pretreatment blood pressure and the number of drugs taken. For example, a patient with a pretreatment blood pressure of 178/98 mm Hg may expect reductions of 11.7/4.6 mm Hg. A randomised controlled trial showed that each pound (0.45 kg) of weight loss reduced blood pressure by about 1 mm Hg in overweight or obese people. The DASH (dietary approaches to stop hypertension) diet is high in vegetables, fruits, low fat dairy products, whole grains, poultry, fish, and nuts and low in sweets, sugar sweetened beverages, and red meats. One randomised controlled trial showed a 6/4 mm Hg reduction in blood pressure when the DASH diet was compared with a control diet that was typical of the diets of a substantial number of US citizens. Dealing with multiple lifestyle modifications simultaneously has been shown to be more effective than a sequential approach, and may have a cumulative effect on blood pressure reduction.

Set a goal

Empowering patients to monitor their blood pressure at home and to manage their drugs improves blood pressure control. Consider motivational interviewing, which has been shown to improve adherence to antihypertensives and blood pressure control. This involves getting patients to explore why and how they can change their behaviours. The healthcare provider’s role is to guide patients through setting the agenda for change by eliciting their internal motivation to change: 

- Ask open ended questions so patients can consider how and why they might change
- Listen to patients’ accounts and express empathy
- Inform by asking permission to provide information

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Useful reading

For patients
American Heart Association. Resistant hypertension. www.heart.org/HEARTORG/Conditions/HighBloodPressure/AboutHighBloodPressure/Resistant-Hypertension_UCM_469327_Article.jsp

For health professionals
QRISK. QRISK2 calculator. https://qrisk.org

Education into practice

• Do you explore adherence in patients with apparently poorly controlled hypertension?

How patients were involved in the creation of this article

No patients were involved in the creation of this article

Table

<table>
<thead>
<tr>
<th>Factors contributing to non-adherence in hypertension with possible solutions. Adapted from WHO report on adherence to long term therapies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factors</strong></td>
</tr>
<tr>
<td>Socioeconomic</td>
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<tr>
<td>Poor socioeconomic status</td>
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<td>Illiteracy</td>
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<td>Unemployment</td>
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<td>Limited drug supply</td>
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<td>Cost of drugs</td>
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<td>Healthcare system</td>
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<td>Clinician-patient relationship</td>
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<td>Lack of knowledge and training for healthcare providers</td>
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<td>Inadequate time for consultation</td>
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<tr>
<td>Condition</td>
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<td>Lack of symptoms</td>
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<tr>
<td>Chronic or incurable disease</td>
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<td>No immediate consequences of stopping the drugs</td>
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<tr>
<td>Treatment</td>
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<td>Complex treatment regimens</td>
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<td>Duration of treatment</td>
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<tr>
<td>Low drug tolerability and adverse effects of treatment such as dry cough with angiotensin converting enzyme inhibitors inhibitors, ankle swelling with calcium channel blockers, and electrolyte disturbances and gout with diuretics</td>
</tr>
<tr>
<td>Patient</td>
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<tr>
<td>Patient’s knowledge of the disease</td>
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<td>Patient’s perception of risk and awareness of costs and benefits of treatment</td>
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<tr>
<td>Non-acceptance of monitoring</td>
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<td>Psychiatric illness</td>
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</tbody>
</table>
Figure

Fig 1 QRISK2 score