Culturally appropriate hypertension care: from patients' perspectives towards practical tools
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Chapter 2

‘Under Pressure’: How Ghanaian, African-Surinamese and Dutch patients explain hypertension

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Abstract

The aim of this study was to explore and compare explanatory models (EMs) of hypertension in native-Dutch, first-generation Ghanaian and African-Surinamese (Surinamese) hypertensives in Amsterdam, the Netherlands.

Through semi-structured interviews, we elicited accounts of the nature, causes and consequences of hypertension in a purposive sample of 46 patients (aged 35–65 years, treated for hypertension in general practice for one year or more).

All three groups had difficulty in describing hypertension. All groups mentioned culturally specific nutritional habits as possible causes of hypertension (Dutch liquorice; Ghanaians fufu; Surinamese salty diet). Most respondents, particularly those of Ghanaian and Surinamese background, perceived stress as the main cause of hypertension and experienced symptoms of hypertension. Many Ghanaian and Surinamese respondents attributed hypertension to migration related factors: changes in diet or climate, stress owing to adaptation to the Dutch society or obligations towards family in their homelands. Many immigrants felt a return to their homeland could cure hypertension and were concerned about the consequences of hypertension. Half of the Dutch and almost all Ghanaian and Surinamese respondents believed uncontrolled hypertension could cause immediate damage. Some Ghanaians expressed reservations sharing their concerns with community members because it might cause social stigma. Few respondents associated hypertension with obesity, even though many were overweight.

Confirming findings from UK and US studies, this study reveals that EMs of hypertension in patients from three ethnic groups differ from the common medical perspective. These differences are greater for patients from migrant groups. Our findings can be useful in developing patient centred hypertension interventions, particularly in new migrant populations.
Introduction

Hypertension is a major risk factor for cardiovascular morbidity and mortality. In the Western hemisphere, hypertension is more prevalent and its complications are more severe among people of African descent than it is among populations of European descent.1-4 As do other European countries, the Netherlands has a growing immigrant population of African descent, particularly in urban areas. African Surinamese immigrants from the former Dutch colony of Suriname and Ghanaians from West Africa comprise two major categories of these immigrants. Hypertension rates are twice as high among African Surinamese (hereafter, Surinamese) men and nearly four times higher among Surinamese women than they are among their white Dutch counterparts.1 Hypertension is also highly prevalent among Ghanaians.5

The modern treatment of hypertension consists of long-term pharmacotherapy and lifestyle changes (e.g., weight control; increased physical activity; avoidance of salt, alcohol and tobacco). However, patient adherence to hypertension treatment is often poor, particularly among ethnic minority populations in Western Europe and the USA.1, 6-8 According to the theoretical model of medical anthropologist Kleinman, healthcare providers and patients have different ‘explanatory models’ (EMs) of sickness and treatment, including explanations for the aetiology of the condition, the timing and onset of symptoms, the patho-physiological processes involved, the natural course and severity, and appropriate treatments.9, 10 Lay EMs vary according to personality and socio-cultural factors, while those of healthcare providers rely more on scientific logic and evidence. Studies among ethnic minority populations in the US and the UK suggest that cultural factors have an impact on the manner in which patients from these groups explain hypertension.7, 8, 11-13 For example, a study on the beliefs about hypertension among lower-class and middle-class African Americans showed that many think that hypertension is caused by eating pork and that it can be treated with home remedies.12 Another study indicated that African Americans are more focused on the present regarding their daily experiences with managing hypertension than White Americans are.13 A British study suggested that beliefs about hypertension among Afro-Caribbeans are influenced by traditional cultural beliefs and practices from their country of origin.8

It is becoming increasingly recognised that doctors must improve their understanding of the EMs of their patients in order to increase patient adherence to hypertension treatment.14-18

Given the high prevalence rates of hypertension among African Surinamese and Ghanaian migrant populations in the Netherlands, there is an urgent need to improve prevention and control of hypertension among these groups.1 Although similarities do exist, the socio-cultural backgrounds of these migrant groups differ from those of the ethnic minority populations that have been studied in the UK and the USA. Nonetheless, no data are available regarding the EMs of hypertension among these groups.
The aim of this study was to provide baseline information for the development of services and programmes that focus on hypertension care in the above-mentioned populations. To this end, we explored the EMs of hypertension of Ghanaian, Surinamese and Dutch patients who were treated for hypertension in a Dutch primary-care setting. We compared the EMs of these patients to each other and to those that have been reported in the US and the UK studies.

Materials and methods

To elicit the EMs of Ghanaian, Surinamese and Dutch hypertensive patients, we conducted a qualitative study using in-depth, semi-structured interviews. We chose this method, as it offers respondents the opportunity to express their own ideas and address themes that the researchers may not have anticipated.19

Recruitment and sample

We recruited respondents from three general practices in South East Amsterdam, a neighbourhood with a high proportion of Surinamese and Ghanaian residents. Electronic patient records were used to generate a list of patients who met the following criteria: age between 35 and 65 years, diagnosis of hypertension (IPCP code K.86) without co-morbidity, at least one year of pharmacotherapy and of Surinamese, Ghanaian or Dutch origin. Because the electronic patient records provide no information on ethnic background, the attending physicians helped identify Dutch, Ghanaian and Surinamese patients according to their knowledge of the patients or their names. Of the 120 patients who were invited to participate in the study, 65 expressed interest in participating. Of these 65 patients, we invited a purposive sample of 54 respondents (a typical sample size for qualitative interview studies) for an interview, based on ethnicity (first-generation immigrants and native Dutch) and sex.19 The self-identification method was used to double-check ethnicity.20 Nineteen of the respondents were Ghanaian; 19 were Surinamese, and 16 were Dutch. All respondents gave informed consent. The study was designed with reference to the research code for qualitative research,21 of the Academic Medical Centre of the Universiteit van Amsterdam and approved by the medical ethics committee of this institution.

Interviews

The interviews were structured around a list of broad topics that were designed to elicit the respondents’ ideas about the nature, causes, duration and consequences of hypertension; their everyday experiences living with this condition; their concerns and expectations about the future; and how their conditions were perceived by people in their own environments. The topic list built upon earlier work on patient perceptions of illness;9, 22 it was adapted
and pre-tested for this study by EB and JS. The topic list was edited in Dutch and translated from Dutch into Ghanaian English by a Ghanaian-English translator. EB conducted the interviews in English with the Ghanaian respondents and in Dutch with the Surinamese and Dutch respondents. Respondents were guaranteed confidentiality. All but three interviews took place in the respondents’ homes. The interviews were digitally recorded and lasted an average of 90 minutes.

Data analysis
The interviews were fully transcribed, checked for errors and analysed as follows:

1. Fragments containing the respondents’ ideas about the nature, causes and consequences of hypertension were selected from each interview.
2. In each fragment, the respondent’s ideas about this topic were coded. Similar codes were assigned to related ideas, resulting in a code list for each interview.
3. Code lists were compared to identify common and unique themes, yielding a thematic matrix for each ethnic group.
4. Similarities, variations and patterns among ethnic groups were identified by comparing the matrices.

Data analysis was performed using Maxqda software. This programme facilitates the assignment of labels, codes and themes to text fragments and the generation of matrices that contain these elements. Data were analysed by EB; to increase reliability of the code list, JS coded four interviews independently. EB and JH, who subsequently compared the thematic matrices from each ethnic group independently, discussed the similarities and variations they found and reached consensus about the conclusions. To verify the conclusions, they were presented and discussed in a larger group of five researchers, a group of six physicians and a group of eight other primary health care professionals from practices who were involved in the study. With few exceptions, the results section contains literal citations of respondents’ answers.

Results

Characteristics of respondents
Forty-six of the 54 interviews were included in the data analysis. Eight interviews were discarded; in seven cases, information obtained in the interview revealed that the patients did not meet inclusion criteria for this study (e.g., co-morbidity, no pharmacotherapy), and one of the interviews was not recorded. Sixteen were Ghanaian, 15 Dutch and 15 Surinamese (table 1). Most Ghanaians were Ashantis (11/16). A majority of the respondents had been born and raised in urban environments. All of the Ghanaian and Surinamese respondents had been living in the
### Table 1: Characteristics of patients analysed in qualitative study

<table>
<thead>
<tr>
<th></th>
<th>Ghanaian</th>
<th>Dutch</th>
<th>Surinamese</th>
<th>Tot</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Male</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>- Female</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>45(35-54)</td>
<td>50(40-62)</td>
<td>50(37-65)</td>
<td>47(35-65)</td>
</tr>
<tr>
<td><strong>Duration of stay in NL (yrs)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>14.5(4-26)</td>
<td>-</td>
<td>24(6-43)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Migration-perspective</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- wants to stay in NL</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- wants to return to country of origin</td>
<td>10</td>
<td>3</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>- doesn’t know yet</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>- no information</td>
<td>2</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Educational level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Low</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>- Middle</td>
<td>7</td>
<td>12</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>- High</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>- no information</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- national health services</td>
<td>14</td>
<td>12</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>- private insurance</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>- non²</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td><strong>Income from</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- employment</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td>- social security or disablement benefits</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>- pension</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>- no income²</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>- no information</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td><strong>Religiousness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- not religious</td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>- partly active</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>- active</td>
<td>14</td>
<td>-</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td><strong>Years since diagnosis of hypertension</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>6(1-24)</td>
<td>18(1-30)</td>
<td>5(1-23)</td>
<td>7(1-30)</td>
</tr>
<tr>
<td><strong>Body Mass Index (kg/m²)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>28.7(23.0-37.1)</td>
<td>27.8(21.6-47.4)</td>
<td>31.6(25.5-60)</td>
<td>29.5(21.6-60)</td>
</tr>
<tr>
<td>&lt;25</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>25-30</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>&gt;30</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>- no information</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td><strong>Blood pressure controlled</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>- no information</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>Familiar with hypertension in social network</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>13</td>
<td>13</td>
<td>14</td>
<td>40</td>
</tr>
<tr>
<td><strong>Familiar with complications of hypertension in social network</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>9</td>
<td>2</td>
<td>6</td>
<td>17</td>
</tr>
</tbody>
</table>

1. categories: low: up to primary school, middle: up to secondary school or middle vocational training; high: up to higher vocational training or university. ². due to illegal status ³. categories: -partly active: visits church regularly -active: visits church once a week or more ⁴. BP <140/90 mmHg
Netherlands for several years. Most of the Ghanaian respondents did not want to stay in the Netherlands permanently; the Surinamese respondents were more ambivalent about staying in the Netherlands. All of the Ghanaians, nearly all of the Surinamese (14/15) and one third of the Dutch respondents were religious (Christian). Most respondents were of lower to middle socio-economic status. While most respondents had been living with hypertension for many years (varying from one to thirty years), the Dutch patients generally had longer histories of hypertension. Most respondents (37/46) had a body mass index above normal (>25 kg/m²), and nearly half (22/46) could be considered obese (>30 kg/m²). According to the electronic patient records, the blood pressure (BP) of nearly half of the respondents (20/46) was (BP) adequately controlled.

**Perceptions on hypertension**

Table 2 summarises how the respondents perceived their conditions.

**What is hypertension?**

Most respondents had difficulty in describing hypertension:

'It means that your heart is under strain to pump. Otherwise, I have no idea what it really means'. (41-year-old Dutch male: ID42)

Others described it as a rapid pulse, blood that is ‘too thick’ or constrictions. ‘Rising blood looking for a way out’ was a description that was unique to the Surinamese respondents: ‘And then that blood enters your brain or comes to your head. And then it wants to get out. Yeah, it has to get away somehow, somewhere, because there is that pressure’.

(59-year-old Surinamese male: ID20)

Several Ghanaians characterised hypertension as ‘too much blood’. This seems to be the literal sense of the phrase *Mogya Broso* (‘excess of blood’) from Ghanaian Twi language:

‘Here (in Holland:EB) you can’t sweat, so everything stays in your body: Too much blood! But if you are in Africa, you sweat’. (45-year-old Ghanaian female: ID5)

**Perceived causes**

Most respondents had clear ideas about what had caused their hypertension, and they usually mentioned a variety of causes. Some differentiated between ‘created’ and ‘natural’ hypertension, as illustrated by the words of a 35-year-old Ghanaian male (ID4):

‘We have people who are naturally BP and we have people who create BP. I am a natural BP because my father had BP’.

According to this differentiation, a majority considered hypertension a ‘created’ condition (20/46) or both ‘created’ and ‘natural’ (20/46); few (4/46) attributed hypertension to purely ‘natural’ causes. ‘Natural hypertension’ was mostly associated by hereditary factors and occasionally with pregnancy or menopause. Ghanaian and Surinamese respondents were more likely than their Dutch counterparts were to emphasise ‘created’ causes.
Most respondents (particularly Ghanaians and Surinamese) perceived stress as the principal cause of 'created' hypertension. Almost without exception, Ghanaians (14/16) saw stress (‘over-thinking’) as the most important cause. Many believed that this was related to their status as immigrants, and they perceived the social pressures of living in Holland, as well as the continuing social obligations to family members in Ghana, as the primary sources of their hypertension:

‘And also I have my brother’s children in Ghana. My brother died. I have to add them to my children. I have to cover for my brother, you know. So all these situations ... you know our culture is different, also in the Netherlands: the tax; all those kind of things make your pressure go high. You get a letter; you have to come tomorrow to pay this amount! I be bombed

Table 2 Patient perspectives on hypertension: causes, symptoms, course, consequences, concerns

<table>
<thead>
<tr>
<th>Perceived cause(s) of hypertension</th>
<th>Ghanaian (n=16)</th>
<th>Dutch (n=15)</th>
<th>Surinamese (n=15)</th>
<th>Tot (n=46)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Created</td>
<td>9 (56%)</td>
<td>4 (29%)</td>
<td>7 (50%)</td>
<td>20 (45%)</td>
</tr>
<tr>
<td>Both: created and natural</td>
<td>6 (38%)</td>
<td>7 (50%)</td>
<td>7 (50%)</td>
<td>20 (45%)</td>
</tr>
<tr>
<td>Natural only</td>
<td>1 (6%)</td>
<td>3 (21%)</td>
<td></td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Unclear</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiences symptoms of hypertension</td>
<td>16 (100%)</td>
<td>7 (50%)</td>
<td>13 (93%)</td>
<td>36 (82%)</td>
</tr>
<tr>
<td>Unclear</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Course and consequences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic</td>
<td>5 (31%)</td>
<td>12 (80%)</td>
<td>11 (73%)</td>
<td>28 (61%)</td>
</tr>
<tr>
<td>Temporary</td>
<td>11 (69%)</td>
<td>3 (20%)</td>
<td>4 (27%)</td>
<td>18 (39%)</td>
</tr>
<tr>
<td>Perceived consequences1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudden death</td>
<td>8 (50%)</td>
<td>6 (40%)</td>
<td></td>
<td>14 (30%)</td>
</tr>
<tr>
<td>Stroke</td>
<td>7 (44%)</td>
<td>10 (67%)</td>
<td>11 (73%)</td>
<td>28 (61%)</td>
</tr>
<tr>
<td>Heart attack</td>
<td>3 (19%)</td>
<td>8 (53%)</td>
<td>3 (20%)</td>
<td>14 (30%)</td>
</tr>
<tr>
<td>Liver and kidney problems</td>
<td>4 (25%)</td>
<td>1 (7%)</td>
<td></td>
<td>5 (11%)</td>
</tr>
<tr>
<td>Fainting/coma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye problems</td>
<td>1 (6%)</td>
<td>1 (7%)</td>
<td></td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Higher risk for CVD in general</td>
<td>3 (20%)</td>
<td>1 (7%)</td>
<td></td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Perceived onset of consequences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At any moment/unpredictable</td>
<td>16 (100%)</td>
<td>7 (47%)</td>
<td>12 (86%)</td>
<td>35 (78%)</td>
</tr>
<tr>
<td>In the longer run</td>
<td>8 (53%)</td>
<td>2 (14%)</td>
<td></td>
<td>10 (22%)</td>
</tr>
<tr>
<td>No information</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Concerns about having hypertension</td>
<td>16 (100%)</td>
<td>4 (27%)</td>
<td>11 (73%)</td>
<td>31 (67%)</td>
</tr>
</tbody>
</table>

1. Several respondents mentioned more than one.
in stress. And the pressure will go higher. That’s why most of we blacks have more high BP than the white people’. (50-year-old Ghanaian male: ID10)

Most of the Surinamese respondents (14/15) also attributed their hypertension to stress. Frequently cited factors included stress due to migration (e.g., difficulties in coping with the faster Dutch way of life) and issues involving their immediate and extended families, as well as issues at work. Some mentioned discrimination as a reason for stress. In contrast to the Ghanaians, however, Surinamese respondents reported less pressure from their families in Suriname:

‘Everybody who gets high BP is stressed, stressed! When you open your mailbox, bills, bills, only bills, for months on end! Yeah, as Surinamese, we are not used to such things, eh!’...

‘When you come out of the bar, immediately the police is on your case. Pull you over, ask for ID’. (58-year-old Surinamese male: ID31)

More than half of the Dutch respondents (9/15) also believed that stress had caused their hypertension. Family and work-related issues were the most frequently cited reasons:

‘It is the burden of my family. BP is a sort of...eh. Actually it doesn’t make a difference how you call it: BP or worrying too much; it seems to be the same thing’. (51-year-old Dutch female: ID36)

A few respondents mentioned lifestyle or environmental factors as causes ‘created’ hypertension. Some of the Ghanaians considered the typical Ghanaian diet (i.e., starchy food, undercooked red meat or beer) as a possible cause of hypertension. Some linked migration-related changes in diet (e.g., less fresh and more canned food) to hypertension or increased alcohol use in Holland to hypertension. Others suspected that the Dutch climate aggravated hypertension:

‘But here, in wintertime, when I eat groundnut soup or peanut butter, everything stays in my body. Because it’s very cold here...so it stays inside and nothing comes out’. (42-year-old Ghanaian female: ID13)

Several of the Surinamese respondents considered the salty Surinamese diet as a cause of hypertension, and some of the Dutch respondents mentioned the consumption of liquorice:

‘I used to buy a bag of liquorice, and I would eat the whole bag at once. However, when you realise, well this is a reason for hypertension, then you quit for a while’. (49-year-old Dutch male: ID44)

Surprisingly, very few respondents saw a link between overweight (7/46) or lack of physical exercise (4/46) and hypertension, even though overweight was very common among the respondents (37/46).

**Everyday experience: symptoms**

Many respondents (36/46) claimed to be able to recognise elevated BP through such signs and symptoms as a painful or tense feeling in the head, dizziness or a lack of energy. Other symptoms included sweating, palpitations and breathing problems, blockage of the nose
and itching or discoloration of the skin. Some of the respondents differentiated between the types of headaches that are associated with BP and those that are not. Ghanaian (16/16) and Surinamese (13/15) respondents were particularly likely to report noticing symptoms, saying that they trusted their bodies to alert them to fluctuations in their BP. Those symptoms were sometimes seen as a cue to act at once: take rest immediately, seek medical advice, take medication, call in sick at work, cool off or avoid sunlight:

‘I get headache and pain in my leg. Sometimes I feel very weak, you know. Very...very tired. When I feel this, I lay down sometime, sit quiet, you know. I try to not lead myself into stress’. (45-year-old Ghanaian female: ID6)

Or:

‘When my BP is too high I see stars, or I become dizzy. Then I know that...well: there is something wrong here. Then I go to the doctor in a hurry, like a bullet! Yes, my body gives clear indications, really!’ (45-year-old Surinamese female: ID22)

And:

‘When BP is high, then there is this swirling sensation. I can feel it right now, now while I am talking about it... if you were to measure it, it would be high’. (51-year-old Dutch female: ID36)

**Duration**

A majority of respondents (28/46) considered hypertension a chronic condition:

‘Actually I let go of the idea I ever can do without medication’. (47-year-old Dutch female: ID43)

A considerable proportion of the respondents (18/46) assumed that hypertension affected them only temporarily or intermittently. This assumption was particularly common among Ghanaians (11/16). Those who saw hypertension as the result of migration-related stress were particularly likely to assume that their BP would drop once these circumstances changed:

‘If I work away those problems, I think my pressure will become normal. It will cure. Because if I go to Ghana and I measure it, it’s different. When I’m here it’s different’. (50-year-old Ghanaian male: ID10)

And:

R: ‘In Suriname, life is relaxed.’
I: ‘Do you still need medication for hypertension if you’re there?’
R: ‘Not at all. You look surprised, but it’s really true!’ (57-year-old Surinamese male: ID31)

**Expected consequences**

All respondents were aware that badly controlled BP could have detrimental effects. They mentioned potential damage to vital organs, especially the brain. Strikingly, three-fourths of the respondents, primarily Ghanaians (16/16) and Surinamese (12/15), believed that
Immediate damage can occur if the BP rises too high. The most commonly anticipated harmful consequence was ‘that the blood vessels will burst’. Quite a few of the Ghanaian and Surinamese respondents thought that elevated BP could result in ‘sudden death’: ‘It can happen to me any time. So all the time I have to check my BP’. (51-year-old Ghanaian male: ID8)

Or:

‘BP is nasty, Erik. You can have high BP, it flows upwards and bang! your brains. And you have a stroke. But I also had an uncle, who was sheer lucky. The blood went up: bang! But it found a way out. It came out of his nose. Like a tap, really, like a tap!’ (45-year-old Surinamese male: ID27)

And:

‘You uh...you can be struck down if it gets real high’. (59-year-old Dutch female: ID32)

A minority of respondents (10/46), primarily Dutch (8/15), believed that poorly controlled BP could have harmful consequences only in the longer run:

‘There are also other factors. I don’t smoke, my cholesterol is not too high. So, these factors are also a risk for the heart and blood vessels. I don’t have that. The consequences could be that you end up with problems in your heart or blood vessels. In my case, only the BP is high..... It is not the other factors that are too high’. (50-year-old Dutch male: ID40)

Concerns

The accounts of the Ghanaians and some Surinamese reflected a great concern about their condition, because of its potential threat to both their health and their social lives. They expressed recurrent fears that they would be unable to control their BP, that they would become dependent on medication or that they would no longer be able to fulfill their social responsibilities to their immediate or extended families:

‘I have two children in Ghana, but I have two here of 6 and 4 ½ .... When I die in Ghana I know my father and mother is there. My family is big there. My only problem is just my pressure. Sometimes, when it’s gone, I like to stay here. To let my children, the ones born here, get the education here. But the moment it’s coming and I start getting worried, I like to go home’ (35-year-old Ghanaian male: ID35).

And:

R: ‘It is always at the back of my mind. Like if I worry, it goes up again’. I: ‘What are you afraid of?’
R: ‘Of dying (laughs)...sorry. That you...uh, maybe you just drop dead’. (65-year-old Surinamese female: ID25)

Dutch respondents generally expressed fewer of these concerns:

‘I am quite easy about it. I don’t have any problems with it myself, and neither does my wife. She just knows that if I just do this right and take my pills, my BP will just be good’. (59-year-old Dutch male: ID37)
Shame
Surinamese respondents often said they shared their hypertension experiences with others, especially their families or immediate friends. Although Dutch respondents were willing to talk to others about hypertension, they did not think it important to do so regularly. In contrast, about one in three Ghanaians reported being reluctant to talk about their hypertension, for fear that it would trigger gossip within the Ghanaian community. In this community, hypertension is perceived as a sign of problems at home or an inability to fulfill social obligations:

‘Our people they are different. If you tell them your problem, they’re going to talk. Then everybody knows....They think maybe you have a problem in your house. Or maybe your husband have another woman’ (39-year-old Ghanaian female: ID14).

Shame also appears related to social class, however, as illustrated by the words of a 35-year old Ghanaian male (ID4):

‘I’m talking of BP because it killed my father. And my father is an engineer and we were not poor. So I know my father didn’t have stress, he also got it from his father. So it’s been a genetic thing in our family. So I can talk about it. And I feel free. If I’m talking to a Ghanaian here, he knows I’m not poor. I’ve been educated, I am an engineer’.

This respondent was not ashamed to talk about his condition because, in his case, other Ghanaians would be less likely to attribute it to stress due to social or financial problems.

Discussion
The aim of this study was to explore explanatory models (EMs) of the nature, causes, experiences and consequences of hypertension in native-Dutch, first-generation Ghanaian and African Surinamese hypertensives in Amsterdam, the Netherlands. Although the EMs of the three ethnic groups are similar in many respects, the results also reveal that socio-cultural factors play a role in manner in which patients explain hypertension. Ghanaian and Surinamese respondents were more likely than Dutch respondents were to mention stress as the major cause of hypertension, and they often linked their stress to such migration-related factors as difficulties in adapting to the requirements of Dutch society and their continuing obligations towards their (extended) families in their countries of origin. Some migrants also associated hypertension with migration-related changes in diet or environment (e.g., weather). In addition, some respondents in all ethnic groups attributed the onset of hypertension to culturally specific aspects of their diets (e.g., the use of starch in the Ghanaian diet, salt in the Surinamese diet, and the consumption of liquorice by the Dutch). Surprisingly, however, although obesity was very common among the respondents, only very few linked obesity with hypertension. Immigrant respondents were more likely than Dutch respondents were to experience clear symptoms of elevated BP and to trust their bodies to alert them to high BP. Interestingly, many immigrants,
particularly Ghanaians, felt that their hypertension was an episodic condition that would
disappear when visiting or returning to their countries of origin. In contrast Dutch patients
regarded hypertension mostly as a chronic condition. As compared to the Dutch, immigrants
were also more concerned and frightened about having hypertension and the potentially
lethal consequences it could have at any time. This is perhaps not surprising, as minority
populations of African origin tend to be disproportionately affected by complications of
hypertension.1-4 Indeed, most Ghanaian and Surinamese respondents knew examples
of people in their community who experienced fatal consequences of hypertension. In
addition, Ghanaians were particularly concerned about having hypertension, as ill health
might prevent them from fulfilling both the social and financial obligations to family and
friends in the country of origin and their tasks in the Netherlands. The Ghanaians were
unique in that they sometimes tried to keep their hypertension a secret from their families
in Ghana or from the Ghanaian community in the Netherlands, as they feared that others
might interpret hypertension as resulting from financial or family-related stress.

The strength of the method we chose in this study is that it builds on the direct experience
of patients. As is the case for most qualitative methods, however, only a limited number
of participants were included. Our selection was limited to respondents of lower to middle
socio-economic status, and the Ghanaian and Surinamese patients were first generation
immigrants. Our selection of patients was limited also to those who volunteered to be
interviewed. Finally, although patients in all groups had been living with hypertension for
many years, Dutch patients generally had longer histories of hypertension. This might
have contributed to the differences between the EMs of Dutch patients and those of
migrant patients. In particular, this makes it unsurprising that most Dutch patients viewed
hypertension as a chronic condition. Each of these factors could be a potential source of
bias. Caution should therefore be exercised when making generalisations from the results.
Nevertheless, consistent with studies of patient perspectives on hypertension in other
populations, this study has shown that patients have their own EMs of hypertension, and
that these EMs diverge from the medical explanatory model (Table 3). Current clinical
guidelines define essential hypertension as an asymptomatic condition without a clear cause
that, as a part of an overall cardiovascular risk profile, may gradually lead to degenerative
cardiovascular damage.15, 24, 25 Patients, however, often understand their conditions as a
separate disease with identifiable causes, that is recognisable through symptoms and that
may have severe consequences when the BP is high. Also consistent with other studies,

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<th>Explanatory Model</th>
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the patients in this study viewed stress as an important causal factor. This suggests that stress is a fundamental and cross-culturally embedded dimension in a patient’s EM of hypertension. Our results also suggest, however, that this EM may be more common among hypertensive immigrant patients than it is among indigenous populations and that migration is often seen as a trigger for stress. Health care providers may find such views irrelevant, as clinical evidence for the role of stress in producing sustained elevation in BP is poor. Neglecting patient explanations for the causes of hypertension, however, may thwart communication about hypertension and its management.

Similar to earlier research, we found that patients often experience hypertension as symptomatic and, similar to results reported in one British study, this was more common among immigrant patients of African origin than it was among native Caucasian patients. Because symptoms are not a reliable indicator of elevated BP, clinicians should discuss symptom perception in the clinical encounter. Patients might confuse symptoms of stress with elevated BP, alter their drug-taking in response to the presence or absence of symptoms or worry excessively about these symptoms.

Prior studies on culturally related common-sense beliefs about illnesses among ethnic minorities from African, Asian or South American descent in Western countries claim that these groups often perceive illness as punishment for violating norms, roles, or moral and religious taboos; or, that they view illness as supernaturally caused. This result has also been found in a few hypertension studies. In this study, however, few Ghanaian and Surinamese respondents attributed causes of hypertension to traditional explanations of health and illness that may exist in their countries. Nonetheless, both groups clearly shared the perception that hypertension is associated with the migration experience, even though there are important cultural differences between Ghanaians and Surinamese both. This suggests that the EMs of these immigrant populations in the Netherlands may be more influenced by the circumstances of daily life than they are by the traditions of their country of origin. Perhaps, as Helman claimed, the notion of stress should be interpreted as a modern, secular version of a supernatural conceptualisation of illness.

In conclusion, this study highlights that the patient perspective of hypertension among three ethnic groups differs sharply from the common medical perspective with the differences being greater in immigrant hypertensive patients than in Dutch patients. Migration often plays a significant role in how migrants perceive hypertension. Understanding patients’ views is crucial if adherence to long-term hypertension treatment is to be improved. At present, patient-centred approaches are assumed to improve adherence. The development of patient-centred approaches to the prevention of cardio-vascular complications in multi-ethnic clinical practices must consider both culturally specific factors and the specific living conditions which migrants experience in their new environment. The findings from this study may provide useful information for the development of such programs. It is important to emphasise, however, that patients’ explanatory frameworks for health and disease are not fixed but may be context dependent and shift over time. This study has explored the explanatory frameworks of
first-generation migrants from two very different cultural groups. Similar studies of other migrant populations and generations are needed to expand our understanding of the impact of socio-cultural factors on patients’ explanatory models of hypertension.

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Summary table

What is known about the topic?

- Hypertension is highly prevalent among people of African origin
- Adherence to hypertension-treatment is often poor, particularly among ethnic minority groups in Western countries
- Perceptions of hypertension may vary between ethnic groups; understanding patients’ perspectives is crucial if adherence to long-term hypertension treatment is to be improved

What this study adds?

- The patient perspective on hypertension in patients from three ethnic populations differs sharply from the common medical perspective even if they are treated for hypertension
- These differences are greater in immigrant patients than in native Dutch patients and migration is often used as explanatory framework for causes, experiences and consequences of hypertension
- Patient-centered hypertension interventions in multi-ethnic clinical practices must consider both culturally specific factors and the specific living conditions which migrants experience in their new environment
**Reference List**


