Making sense of blood pressure values in follow-up appointments for hypertension

Staffan Svensson a,*, Per Linell b, Karin I Kjellgren c

a Department of Clinical Pharmacology, Sahlgrenska Academy at Göteborg University, SE-413 45 Gothenburg, Sweden
b Department of Communication Studies, Linköping University, SE-581 83 Linköping, Sweden
c Institute of Health and Care Sciences, Sahlgrenska Academy at Göteborg University, SE-405 30 Gothenburg, Sweden

Received 3 October 2006; accepted 18 November 2006
Available online 30 March 2007

Abstract

Background: Although there are effective ways of treating hypertension, only a minority of all hypertensive people reach target blood pressure levels. This may be a function of how patients and physicians put measured values into context when they decide if the blood pressure is well controlled or too high.

Methodology: Qualitative analysis of audio-taped follow-up appointments for hypertension between 51 outpatients and their 11 physicians. All patients came for routine follow-up appointments for hypertension. The setting was primary and a specialist outpatient care in the south of Sweden.

Principal findings: Borderline blood pressure values led to more deliberation. Common ways of contextualising the blood pressure were by comparing it to previous values and by explaining it in terms of stress or lack of rest. The net effect of this was that the representativity and severity of the measured blood pressure value were downplayed by both patients and physicians. In some instances, physicians (but not patients) worked in the opposite direction. Patients were less actively engaged in interpreting the blood pressure values, stated their views about therapy less often, and were careful not to express views that were overly critical of the drug treatment.

Conclusions: Patients and physicians make sense of the blood pressure through a contextualisation process which tends to normalise the face values towards the reference values. The resulting (processed) value is the one acted upon. Discursive handling of the blood pressure therefore makes up an important part of the decision-making.

© 2007 Elsevier Ireland Ltd. All rights reserved.

Keywords: Hypertension; Communication; Negotiation; Decision-making

1. Introduction

Cardiovascular disease (CVD) is the leading cause of death worldwide and hypertension is one of its main risk factors [1]. Effective antihypertensive drugs are available, yet only a minority of people with hypertension reach target blood pressure levels. In Europe, even among high-risk individuals with established CVD, the rate of blood pressure control to \( \leq 140/90 \) mm Hg is less than 50% [2]. The resulting large gap between actual and possible health gains is a matter of great concern. It is generally held that physicians’ non-adherence to treatment guidelines and patients’ non-adherence to treatment recommendations, are key factors behind this failure [2–4].

The acts of being adherent, i.e. prescribing and taking antihypertensive medications as recommended, ultimately rest on choices made by prescribers and patients. While taking the drugs is in a sense the result of daily decision-making on the part of patients, the long-term treatment strategy is usually settled in follow-up appointments with physicians. Here, the task at hand is to assess if the blood pressure is sufficiently well controlled, if there are any disturbing side effects, and to adapt the therapy accordingly [3,5]. How the blood pressure and side effects are judged therefore determines what choices are made in the
consultations, and it is, presumably, also a major determinant of patients’ medication-taking behaviour outside the clinic. It is therefore crucial to understand it.

To judge a blood pressure may, however, be difficult. Answering the question “is the blood pressure sufficiently well controlled?” involves consideration of possible measurement error and of concurrent CVD risk factors, as well as comparison to reference values and estimation of the office measurement’s representativity vis-à-vis the patient’s usual values [1,3,6]. Somehow, all these things must be accommodated into an overall judgement of the blood pressure, which, in turn, needs to be considered in relation to other factors relevant to the therapy decision. Making sense of the blood pressure is therefore a complex task, which demands a complex frame of reference rather than a simple reference value [7].

A good frame of reference helps participants arrive at an accurate view of the situation and promotes decisions that benefit patients. A bad frame of reference may, on the other hand, introduce bias by providing a way of looking at blood pressure values that distorts them away from the “true” values. The framing of clinic blood pressure values is therefore highly relevant to understanding both patients’ and physicians’ adherence. We set out to explore how patients and physicians settle if the blood pressure value is adequately controlled or not, using a dataset of follow-up appointments for hypertension [8,9].

2. Materials and methods

The source data consists of 12 h and 40 min of audio-recordings from 51 authentic consultations for hypertension [8,9]. After obtaining ethics committee’s approval, two primary health care centres in a city were recruited for a pilot study. In these, the calling lists were searched for patients who had hypertension as their main diagnosis, were currently or previously treated with antihypertensive drugs and came for regular hypertension follow-up appointments with their physicians. Patients fulfilling these criteria were approached in the order they appeared, and those who gave consent had their appointments audiotape-recorded with no one present but the patient and the physician. After the consultations, physicians recorded blood pressure values, choice of therapy and medical history on a separate sheet.

The methodology was tested on five appointments and found satisfactory, after which this pilot scheme was expanded by the recruitment of new study sites which were chosen in order to get data from a wide variety of outpatient hypertension care settings. In all, 67 patients were approached and 54 agreed to participate. All were native Swedish speakers. Three recordings were lost due to technical problems and a further eight were partially incomplete but we nevertheless included these in the analysis. The final dataset therefore consisted of 51 recordings, of which 5 from the two urban primary health care centres, 16 from a rural primary health care centre, 15 from an urban private practice and 15 from a specialist clinic (a hypertension unit) in a university hospital. All sites provided care for the general population and were located in Southern Sweden. Data collection took place between November 1993 and February 1995 and was performed by KIK.

The audio-recordings were transcribed verbatim. The consultations were divided into three phases: history-taking, physical examination and diagnosis. We defined the physical examination phase as starting with physicians’ requests for patients to undress and ending with a request to put the clothes back on.

Using the software QSR NVivo 1.2, all talk concerning the blood pressure and/or choice of therapy was marked. These stretches of talk were considered both in the context of the consultations wherein they occurred and in the context of the dataset as a whole. Our approach to the data was broadly discourse analytical [10,11]. The analyses, which were performed on the Swedish originals (transcripts and audio-data), proceeded in a cycle of pattern identification, data categorisation, pattern revision and recategorisation until no further insight was deemed forthcoming. The codings and categorisations were made by SS, and later checked by KIK. Disagreements were settled by discussion. Excerpts chosen for publication were then re-transcribed in more detail (see Box) and translated in a way that was fairly close to the Swedish original.

3. Results

3.1. General description of appointments

The appointments have been described elsewhere [8,9]. Most patients were in their middle age and had many years of experience of hypertension, and all physicians were experienced in treating it. Most appointments ended with the decision to continue with the current therapy (Table 1). Physicians did most of the questioning and were largely in control of the transitions between the different phases of the consultations. The atmosphere was generally pleasant with
little if any overt conflict between patients and physicians. Quite a large share of the appointment time was used for speaking about things not directly related to the blood pressure or other CVD risks factors, especially when the blood pressure appeared well controlled and the medication was unproblematic.

3.2. Stated intentions with therapy

Patients and physicians often made their intentions and opinions concerning drug therapy explicit (e.g. saying they wanted to increase the dose). However, they could also keep silent about it. Physicians’ intentions were eventually made evident from the prescriptions they issued, but in 13 (25%) cases (of which 11 (85%) were recorded in their entirety) no statement of intention or opinion was made before prescribing took place. When physicians stated no intention, the outcome was usually (in 11 of 13 (85%) cases) a repeat prescription. The systolic blood pressure in these 13 consultations was, however, higher than in those 22 where physicians made it clear, before prescribing, that they wanted no change (mean 161/89 vs. 149/89 mm Hg). Among the patients, a majority of 31 (61%) did not reveal any preferred outcome. There was an evident link between physicians’ stated preferences and the final treatment decisions, whereas the match was less perfect for patients (Fig. 1).

Statements of intention with therapy occurred in all consultation phases but physicians were more outspoken after the blood pressure had been measured. Patients’ statements were rather tentative while physicians’ were more definite.

Excerpt 1 shows the case of a patient who, directly after the consultation’s opening, signalled that he wanted to decrease the medication (lines 07–09). He softened this statement by preceding it with an assertion that there was no serious problem and by phrasing it as a question. He then went on to portray the matter in a way that made him appear almost whimsical; as one who entertains false beliefs (lines 11–14).

Such downplaying of the message, although usually less marked, was characteristic of patients’ displays of discontent.

Table 1
Characteristics of patients, physicians and consultations

<table>
<thead>
<tr>
<th></th>
<th>Patients (n=51)</th>
<th>Physicians (n=11)</th>
<th>Consultations (n=51)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>58 (34–83)</td>
<td>45 (39–61)</td>
<td>14 (4–50)</td>
</tr>
<tr>
<td>Male:female ratio</td>
<td>26:25 (51:49)</td>
<td>9:2 (82:18)</td>
<td></td>
</tr>
<tr>
<td>Years since hypertension diagnosis</td>
<td>10 (1–34)</td>
<td>17 (9–31)</td>
<td></td>
</tr>
<tr>
<td>Systolic BP (mm Hg)</td>
<td>155 (110–210)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diastolic BP (mm Hg)</td>
<td>91 (70–110)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of antihypertensive drugs*</td>
<td>0 (1)</td>
<td>1 (2)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>27 (53)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>19 (37)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3 (6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 (2)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Physicians (n=11)</th>
<th>Consultations (n=51)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male:female ratio b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years since medical registration</td>
<td>17 (9–31)</td>
<td>10 (0–26)</td>
</tr>
<tr>
<td>Years since specialist registration e</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Therapy decision</th>
<th>Physicians</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased</td>
<td>Increase 16/96</td>
<td>Increase 158/91</td>
</tr>
<tr>
<td>Not changed</td>
<td>Not changed 149/89</td>
<td>No change</td>
</tr>
<tr>
<td>Changed to equivalent f</td>
<td>Changed to equivalent 152/90</td>
<td></td>
</tr>
<tr>
<td>Decreased g</td>
<td>Decreased 133/93</td>
<td>Decreased 161/89</td>
</tr>
<tr>
<td>Unknown h</td>
<td>Unknown</td>
<td></td>
</tr>
</tbody>
</table>

Values are mean (range) or n (%).
BP: blood pressure. The lowest supine values were used where available, else the lowest sitting.

* Number of substances prescribed by physician at the end of the consultation.

b The physician was female in 17 (33%) consultations.
c Physicians were specialists in general practice (n=6), internal medicine (n=1), internal medicine and endocrinology (n=3), and general practice and internal medicine (n=1).
d Excluding long pauses for rest, etc. For the eight incompletely recorded consultations, this was 10 (6–15) min.
e Dose increased, new drug added, or drug discontinued by patient restarted.
f Changed to a drug described as being equally effective as presently used drug.
g Dose decreased or drug discontinued.
h Relevant parts of consultations not recorded.

Fig. 1. Physicians’ and patients’ statements about what they wanted to do with the antihypertensive drugs, in relation to the actual treatment decisions. Numbers within bars: in black = n for category; in grey = n for subgroups. Numbers outside bars: mean blood pressure values (mm Hg) for categories. aSee Table 1 for definitions of treatment decisions. bPhysicians did not make their intentions explicit: the recommended therapy was made evident by the issuing of a prescription. cUnknown: relevant parts of consultations not recorded.
with the medication. The physician, on his part, waited until after the measurement to make his view known (lines 20–24), thus tying his recommendation to the result of the examination as well as to the "no serious problem" aspect of what the patient had previously said. This consultation ended in a repeat prescription.

3.3. Delivery and assessment of blood pressure values

The blood pressure measurement was caught on tape in 48 (94%) consultations. All physicians measured the blood pressure manually, using mercury sphygmomanometers. The blood pressure was measured 1–5 times (mean 2.3), in 15 (29%) consultations also after rest (for several minutes, with physician absent). After the measurement, physicians usually told patients of the result and their opinion thereof, as seen in Excerpt 1. Here, the physician stated the value and made an assessment of it (lines 16–17), followed by a minimal acknowledgement by the patient (line 18). The question then appeared settled and no further deliberation about the blood pressure took place.

In many consultations, however, delivery and assessment of the blood pressure was a lot less straightforward than in Excerpt 1. Consider Excerpt 2, where the physician followed up on her delivery of the value by a non-committal remark about wanting to re-measure, rather than by an assessment per se (lines 01–04). The patient instead made the first assessment by qualifying the value as being higher than previous ones, and therefore, arguably, too high (line 05), a statement that was then played down by the physician (lines 06, 09). After re-measurement, the patient was again the first to make an assessment, this time in terms of a relative improvement (line 24). At this point, they were very much speaking “in collaboration” with a lot of overlapping talk (lines 23–29), but the final say was the physician’s, who guardedly defined the blood pressure as being “fine” (line 25, confirmed in 27, 29). This consultation also ended with a repeat prescription.

The variation between consultations in how the blood pressure was delivered and assessed, seemed partly due to different

Excerpt 1

P: 43-year old male with hypertension since 3 years, taking atenolol and amlodipine. D: 42-year old male GP. Lines 01–14 are from the start of the history-taking phase and lines 16–25 from the physical examination phase.
01 D: okay (...) you’re here for your blood pressure checkup
02 ((flipping through papers))
03 P: mmh
04 D: and you’re on (1.5) two medications
05 P: yeh
06 D: and how do you get on with that?
07 P: (1.2) we::ll (...) it works alright it’s ju (...) the que-
08 question is just if I need them both (...) that’s the
09 thing
10 D: ye:s
11 P: you keep thinking you’re an that perhaps you’re ...
12 that it’s better than (.) that you’re healthier than it
13 really is (...) or healthy if you can speak about that
14 in this context
15 ((4 min later, after BP measurement))
16 D: a hundred and thirty eighty five you have (.) hm
17 now that’s a fine value
18 P: mm-m
19 ((40 s later, after lung auscultation))
20 D: we:ll (...) the blood pressure is great really so I think
21 it’s a shame actually to eh (.) start stirring up (1.3)
22 your medication if you basically think it--
23 P: mm-yeh
24 D: =feels alright
25 P: = yeh yeh (.) yeah

Excerpt 2

P: 70-year old woman with a 20-year history of hypertension, treated with metoprolol S/R and bendroflumethiazide. D: 39-year old female GP. From the physical examination (lines 01–29) and the discussion phase (lines 31–32).
01 D: one hundred an eighty (.) over ninety it was (.)
02 shall we wait a minute or a couple of minutes
03 P: mm
04 D: = and see (.) the pressure again
05 P: = yeh cos it’s a bit higher right than it’s been before
06 D: = yeh but we’ll wait a few minutes (then we’ll
07 P: (((laugh)))
08 be a:h--
09 D: you’re a bit stressed at the moment
10 P: yeh! mm one can be that “I know” ! (((laugh)))
11 D: yeh exactly
12 yeh (...) so we (.) we should wait for a minute or so
13 ((D leaves, returns after 3 1/2 min))
14 D: fine let’s remeasure
15 P: = mmmm ...
16 D: (the blood pressure)
17 P: I hope it’s *better* now!
18 D:*yeh!:* (1.5) so
19 P: mmm
20 ((cuff inflated and deflated, phone rings 3 times))
21 D: it’s a hundred an seventy five over eighty five
22 P: a-
23 D: an that’s
24 P: = an that’s a BIT better (cuff removed)
25 D: = yea:h (...) but I think that’s fine
26 P: = do you?
27 D: = "yeh"
28 P: = do you think so?
29 D: = yeh (.) I think so (.) hmm
30 ((4 min later))
31 P: ye:a (.) if I’d lain (.) five minutes more then *maybe*
32 D: = yeh then maybe it would go down further
Excerpt 3

P: 60-year old man with hypertension since 20 years, taking doxazosin, captopril and metoprolol S/R. D: 41-year old male specialist in internal medicine and endocrinology. From the beginning (lines 01–22) and end (lines 24–31) of the history-taking phase, and the beginning of the discussion (lines 33–38).

01 P: but then it’s the blood pressure as well like doesn’t
02 really go down cos
03 D:= have you measured it any (. ) more
04 P: = I was down a:t (. ) the GP centre in (name) I live
05 over there
06 D: yeh
07 P: = an checked it up cos it was one day my head felt
08 a bit woozy at work [an so on like
09 D: [mm ... mm
10 P: went down an then eh the pressure was as usual
11 although a-h had (. ) raised it (. ) two M G okay
12 D: right
13 P: so that ... was a bit of a lot down but it’s perhaps
14 to -e (. ) do with me (. ) feelin a bit (. ) stressed
15 in [view of all that with my situation now ey
16 D: [yeh (. ) naeh
17 D: yeh
18 P: you try to make the best- - they take me off
19 the machine an set me "hmn a bit " aside
20 sort of I’ve got five weeks left eh
21 D: [yee-a-yea (. ) m
22 P: = an all this makes me-a (. ) affects me
23 ((8 min later))
24 P: so I’ll carry on with them medication then e-eh ...
25 with the affadil?
26 D:= we [we eh
27 P: = I’ve been taking
28 D: = probably (. ) I think-h
29 P: yeh okay [m ... nah (xxx) pressure (. ) yeh (. ) m
30 D: [that we won’t change anything but let’s
31 see what it’s like first (. ) before deciding anything
32 ((11 min later))
33 D: nah ... a:right (1.5) well ... a hundred an (. ) fifty
34 ninety two I think that’s quite good ... an [I think
35 P: [m-m
36 D: we’ll (. ) simply carry on with this compound
37 P: m-m
38 D: as we said

habitson part of the physicians. There was, however, also a lot of variation within the appointments of any one physician. Generally, blood pressure values in the vicinity of 135–150 mm Hg systolic and 85–95 mm Hg diastolic evoked considerably less talk than readings above or (rarely) below these levels. A lot of talk with a bearing on blood pressure assessment also took place, however, before the measurement, as physicians and patients spoke about previous measurements and other things relevant to the interpretation of the upcoming value. This was seen in Excerpt 3, where the patient described a previous measurement which resulted in a value that was (still) too high despite a recent 2 mg increase in the dose of doxazosin (lines 10–11). The patient went on to contextualise this as an effect of his impending retirement (lines 13–22). Later on, but prior to the measurement, he requested a treatment opinion from the physician (lines 24–25). The physician, however, put this off until after the measurement (lines 26–31), when he made an uncomplicated assessment of the blood pressure as being “quite good” and an equally uncomplicated treatment recommendation (lines 33–38). This consultation too ended with a repeat prescription.

Another instance of an assessment that began prior to the actual measurement, is shown in Excerpt 4. Here, on the basis of recent measurements, the physician stated that the blood pressure was too high (lines 01–02). He went on to provide a number of reasons for this claim (lines 14–25): that the blood pressure was high in diastolic and systolic as well as in supine and standing; that it had been high on several occasions and regardless of rest, and that all these were beyond doubt. After measurement, the blood pressure turned out to be 180/110 mm Hg and the outcome was a new prescription of atenolol.

3.4. Upgrading and downgrading

In both Excerpts 2 and 3, the participants contextualised the present blood pressure in a way that made it appear exceptional, i.e. worse than the blood pressures patients usually had. In Excerpt 2 this framing was applied to the value that had just been obtained, whereas in Excerpt 3 it concerned a recently measured value. In Excerpt 4, on the other hand, the physician argued that the patient’s blood pressure was not a matter of “coincidence” (line 22), i.e. that the measurements were accurate estimates of the true values, and that this was indeed a serious finding. We coded the commentaries patients and physicians made on the blood pressure as being upgrading, downgrading or neutral. Upgrading assessments were defined as those suggesting that the patient’s usual blood pressure was alarming; a cause for serious consideration. Downgrading assessments were those to the effect that the blood pressure was not a cause of concern, by casting doubt on its representativity or severity. Upgrading implied that the situation merited at least the same, or more treatment than before. Downgrading implied that there was no need for more intense therapy, or (rarely) that it could even be decreased. A neutral statement was one indicating that no further comments were needed, given that the therapy was already established: often, the physician just said that the value was “fine” or “as usual”. In other words, with neutral statements, no attempts were made to discursively up- or downgrade the blood pressure. In Excerpt 1, the physician’s statements in lines 16–17 and 20–22 were considered neutral. In Excerpt 2, both the
patient and the physician engaged in downgrading of the measured blood pressure’s representativity. In Excerpt 3, the patient downgraded the representativity, while the physician’s assessment in lines 33–34 was taken as neutral. In Excerpt 4, finally, the physician emphasised both representativity and severity, and his statements were therefore considered to be upgrading. In the dataset as a whole, patients and physicians were more prone to address representativity than severity. Also, while downgrading was common, upgrading occurred less frequently.

3.5. Overall patterns of up- and downgrading

Based on the cumulative effect of what participants said, we classified them as being overall downgrading, neutral or upgrading. This labelling reflected the net contribution of each individual in each consultation, so there were $2 \times 51$ labels. In some consultations, both up- and downgrading utterances were made by the same speaker, so that the efforts effectively cancelled out. These participants were considered to have taken an overall neutral stance, and we also leaned towards a classification as neutral in doubtful cases. It was, however, usually possible to discern a main tendency in each participant’s line of interpretation.

The results concerning upgrading and downgrading could be summarised as follows (see Table 2). Neutral assessments accounted for more than half of the cases for both participants. In addition, downgrading was much more common than upgrading (16 vs. 6 consultations for physicians, 18 vs. 0 for patients). That is, patients in fact never upgraded. In a few cases ($n=3$), they even downgraded when physicians upgraded. Systolic blood pressure values were lower in the neutral/neutral category (143/90 mm Hg vs. 165/91 in all others combined). The patterns of interpretation were not consistently linked to specific therapy decisions (Fig. 2), although among physicians there were no combinations of upgrading and dose decrease, or downgrading and dose increase. The latter was, however, the case for four patients. In the following, we will discuss more specific patterns of the discourse, including the relationship to actual decisions.

### 3.6. Use of comparisons

Upgrading as well as downgrading was frequently based on establishing a comparison between the patients’ actual (or most recent) blood pressure value, and some other value. In many cases this other value was implicit, such as the “as usual” value implied in the account in Excerpt 3 (lines 13–22). In other cases the comparator was explicit, such as the reference values mentioned in lines 06–07 of Excerpt 4, or the pre-rest value in line 24 of Excerpt 2. Implicit contrasts were difficult to quantify; in a sense, saying that something is “fine” entails making a contrast with something that is “not fine”. Explicit contrasts could, on the other hand, be purposefully defined as those with a comparator that was specified in time, actual value or person. We found 60 instances of these. Physicians introduced them more frequently than did patients (46 (77%) vs. 14 (23%) and the commonest type of comparison was between the most recent) blood pressure value, and some other value. In many cases this other value was implicit, such as the reference values mentioned in lines 06–07 of Excerpt 4, or the pre-rest value in line 24 of Excerpt 2. Implicit contrasts were difficult to quantify; in a sense, saying that something is “fine” entails making a contrast with something that is “not fine”. Explicit contrasts could, on the other hand, be purposefully defined as those with a comparator that was specified in time, actual value or person. We found 60 instances of these. Physicians introduced them more frequently than did patients (46 (77%) vs. 14 (23%) and the commonest type of comparison was between the most recent and a previous value of the same patient (53 (88%)). Six (10%) comparisons were made with specified reference values. Further, contrasts were established in terms of the patient’s actual value being better, similar or higher than the

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Overall interpretations of the blood pressure by patients and physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>Upgrading</td>
</tr>
<tr>
<td>Physicians</td>
<td>3 (6)</td>
</tr>
<tr>
<td></td>
<td>150/93</td>
</tr>
<tr>
<td>Neutral</td>
<td>23 (45)</td>
</tr>
<tr>
<td></td>
<td>143/90</td>
</tr>
<tr>
<td>Downgrading</td>
<td>7 (14)</td>
</tr>
<tr>
<td></td>
<td>164/89</td>
</tr>
<tr>
<td>Total</td>
<td>33 (65)</td>
</tr>
<tr>
<td></td>
<td>148/90</td>
</tr>
</tbody>
</table>

Values are $n$ (%) and mean blood pressures for groups (mm Hg).
comparator. For physicians, 12 (26%) were said to be better, 20 (43%) similar and 14 (30%) higher. The corresponding figures for patients were 7 (50%), 2 (14%) and 5 (36%). When two values were described as being similar, they were sometimes qualified as being “basically the same” or the difference was said to be “within the margin of error”. When the person who had measured the comparator value was not a physician (usually a nurse), the comparison was in eight out of nine (89%) cases to the effect that the most recent value was higher. Further details are given in Table 3.

3.7. Use of stress and lack of rest

Contextualisation of the blood pressure in terms of stress or lack of rest took place in 23 (45%) consultations. In these, the mean blood pressure was 166/91 mm Hg, vs. 146/90 in all others. Twelve varieties of the “stress explanation” were found and these were introduced altogether 32 times, of which 20 (62%) by physicians and 12 (38%) by patients. While patients were prone to describe the stressor in some detail, e.g. the retirement account in Excerpt 3, physicians spoke in more generic terms of insufficient rest before measurement (n=8) and the stress of being at the doctor’s (n=6) (Table 4). Usually, references to stress were linked to downgrading of the blood pressure, but on two occasions physicians pointed out that they did not think the hypertension would have been controlled even under relaxed circumstances. When stress explanations were suggested by one party, the other remained neutral or contributed to it in all cases but one, in which a physician’s attempt to interpret the blood pressure as stress-related met with hesitation from the patient.

In Excerpt 2, the finding of a raised blood pressure apparently led the physician to suggest re-measurement after rest (lines 06, 12). Elsewhere in the material, however, high readings rarely triggered rest and re-measurement. Rather, this seemed to be a function of the physicians’ clinic affiliation or speciality. Thus, the three specialists in internal medicine and endocrinology, who all worked at the same clinic, together accounted for 15 (29%) consultations, of which the patient rested in 11 (73%). In the remaining 36 (71%) consultations, the patient rested in 4 (11%).

Table 3
Comparisons concerning blood pressure values

<table>
<thead>
<tr>
<th>Type of comparison</th>
<th>Better Physician</th>
<th>Better Patient</th>
<th>Similar Physician</th>
<th>Similar Patient</th>
<th>Higher Physician</th>
<th>Higher Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most recent vs. previous</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Measuring person unspecified</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Measured by other health staff</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Measured earlier in ongoing consultation</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Previously specified as before medication was started or increased</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Most recent vs. reference value</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Patient’s own vs. friend’s blood pressure</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>SUM</td>
<td>12</td>
<td>17</td>
<td>20</td>
<td>2</td>
<td>14</td>
<td>5</td>
</tr>
</tbody>
</table>

Figures are the number of times comparisons were introduced by physicians and patients. “Better” means that the most recent value was described as being better than the comparison value, etc.

a References to “last year’s value”, “last time you were here”, physician’s list of recorded blood pressures or patient’s recall of previous values.
b Auxiliary/district/unspecified nurse (n=8), dentist (n=1).
c Measuring person unspecified (n=3), physician (n=1).
d Reference values had to be specified, so statements like “it was borderline” were not included.
3.8. Use of other contextualisations

In two (4%) cases, physicians expressed disbelief in the current reading, saying it seemed unreasonable. The patients in these consultations did not object to their incredulity. In two (4%) other consultations, the patient referred to another medical authority (one a physician, the other a nurse) as having said that the patient’s blood pressure was alright. In one (2%) consultation, finally, the relevance of the reference values was downplayed by a 73-year old patient who felt the 140/90 mm Hg cutoff was irrelevant for a woman of her age.

3.9. Making decisions about the therapy

It was difficult to pin-point how patients and physicians decided if a blood pressure was to trigger a change in therapy. While the measured value clearly played a role on the group level (Fig. 1), this was not so evident in individual cases. What physicians said about the blood pressure values (e.g. “it’s fine”) was in line with the treatment decisions, at least in consultations where there was no other factor (such as a side effect) that was important for these decisions. Qualifying the blood pressure as “fine” was, however, the end result of a process rather than the decision-making itself. This process was sometimes straightforward and sometimes involved a lot of discursive “treatment” of the face value. In these deliberations, there was rarely any explicit reference to the choice of treatment. Rather, this choice seemed to emerge from the way the values were contextualised. When a view of the blood pressure had been produced that both participants seemed prepared to accept, the decision had effectively been made. In Excerpt 2, for example, the decision was arguably an accomplished fact when the physician, after downgrading efforts from both parties, qualified the blood pressure as “fine” (line 25). In what followed, neither participant felt it necessary to state their intentions with therapy.

4. Discussion

4.1. Validity

We examined a material that reflected health care in action, rather than secondary accounts or data collected from questionnaires. The size of the study was fair and the patient material homogeneous (the latter could be considered both an asset and a drawback). Although the material was collected more than a decade ago, and some contextual factors may have changed since then, the overall patterns of discursive management are most probably still valid. As in other investigations of institutional discourse, the impact of the tape-recording on participants could be judged to be minor. Our analysis is necessarily subjective and there was no independent re-coding, but the subjectivity of the coding was on the other hand counteracted by the subsequent control by one of the authors (KIK) who had extensive experience of the material [8,9]. Our analyses left out the role of side effects for the treatment decision, but this will be treated in a separate study [12].

4.2. Findings

In the consultations we studied, the blood pressure acted upon was not so much the face value as an interpretation of it. In other words, by applying a frame of reference to the measured value, the participants produced a hypothetical value that was then treated as the real one. In some cases the face value underwent little or no processing, while in other cases this was extensive. Overall, the more a blood pressure diverged from values around 140/90 mm Hg, the more effort was spent on contextualising it. The net effect of all this was a downward adjustment of the measured values. On occasions, patients and physicians hesitated before a construct value, like in Excerpt 2 where the patient made repeated demands for assertion about the blood pressure being “fine” (lines 26, 28), and where they, later on in the discussion, also felt the need to reinforce the interpretation by an extrapolation exercise (lines 31–32). Usually, however, hesitation was not evident.

Our aim was to investigate how people decide if a blood pressure ought to cause a change in therapy. The best answer we could come up with was that this involved subjecting the measured blood pressure to various contextualisations, notably relativisation of the value to different comparators and explanation of it in terms of stress, the net effect of which was to normalise it towards the reference values. We did not assess, however, if the interpretations made were plausible or not. They may all have been perfectly reasonable. The incidence of “white coat hypertension” is, for example, appreciable [13] and patients very likely did have lower blood pressures when not at the doctor’s. Nonetheless,

---

Table 4

Varieties of use of “stress” or “insufficient rest” as an explanation of the blood pressure

<table>
<thead>
<tr>
<th></th>
<th>Physicians</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>No/insufficient rest prior to measurement</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Stress of being at doctor’s</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Unspecified</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Stressful period of life</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tape-recording of consultation</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>High stress hormones</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Hurried to get to consultation</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Talking a lot</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Stressful work conditions</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Strong emotions</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Stressful situation at home</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>12</td>
</tr>
</tbody>
</table>

Values are the number of times these explanations were introduced by the speakers. In some consultations more than one variety was used so the sum of varieties (n=32) exceeds the number of consultations in which they occurred (n=23).
white coat hypertension may itself be a risk factor [13] and the evidence for treating hypertension is mainly based on measurements obtained in the clinic setting [14]. In any case, we believe our findings provide some background to the poor rate of control among patients treated with antihypertensive drugs [2].

It was the physician’s role to sum up what had surfaced during the consultation and come up with a treatment proposal, either by stating one or by just issuing a prescription. This gave physicians the privilege of getting the last word on the interpretation. Physicians were also, however, more active in actually making the interpretations. Patients rarely opposed physicians’ ways of looking at the blood pressure, nor their therapy proposals (Fig. 1, Table 2). In all, these findings reinforce claims we have previously made to the effect that the patients in these appointments were not very involved in the decision-making process [9]. However, it must not be forgotten that it is the patients who have the last word outside the clinic. We do not know to what degree the interpretations made in the consultations affected patients’ privately held views and their way of taking medication in daily life. These matters probably have to be examined in settings outside that of usual health care [15].

Acknowledgements

This research was partly financed by grants from The Swedish Foundation for Strategic Research (via The National Network in Drug Development), Svenska Hypertonisällskapet, the County of Östergötland (nos 95/196, 96/198) and Vårdalstiftelsen (no VF96 170). The researchers were independent from funders. We are grateful to Andrew Herxheimer for comments on the manuscript.

References


