Views of hospital staff on the management of hypertension


Department of Clinical Pharmacology, St Bartholomew's Hospital, London and Department of Health Care of the Elderly, King's College School of Medicine and Dentistry, Dulwich Hospital, London SE22 8PT, UK

Summary: A questionnaire concerning the detection and management of hypertension was presented to 265 hospital doctors, 114 medical students and 59 student nurses. Of these 75% were completed. Although only 76% thought that routine measurement was necessary in outpatients, 92% of respondents thought that blood pressure (BP) should be measured routinely in all in-patients. A total of 17% of all doctors and 11% of physicians indicated that they would not use drug treatment until the diastolic BP exceeded 105 mmHg. Thirty-four per cent of respondents still use diastolic phase IV and 84% felt that BP should be measured 2-4 times before deciding on treatment but the posture of the patient (lying, sitting or standing) during recording was inconsistent. Seventy-seven per cent of respondents indicated that they recorded BP to the nearest 5 mmHg and 4% to the nearest 10 mmHg. Despite the literature on the subject, there are still widely differing opinions amongst medical staff on how to record BP and at what level it should be treated.

Introduction

Ten years ago, the views of medical and nursing staff at St Bartholomew's Hospital concerning the detection and management of hypertension were obtained.1 This study showed divergent opinions particularly as to the level of diastolic blood pressure (BP) at which an asymptomatic 50 year old man required treatment with drugs. A total of 16/320 (5%) respondents indicated that they would not treat patients until a diastolic BP of 105 mmHg had been reached. There has also been considerable disagreement about the phase of diastolic BP which should be recorded.2 In our previous study, 54% of respondents used phase IV and 43% phase V.1 Since this study, several major trials have been published such as the Medical Research Council Trial of mild hypertension.3 Following these trials and dissemination of the results of our first study, we have reassessed the attitudes of hospital staff to the detection and treatment of hypertension.

Although the decision to begin treatment for hypertension is largely made in general practice rather than in hospitals, the objective of this study was to examine the change in attitudes and training of hospital staff in the light of developments in the field. Despite being particularly interested in medical students, nursing students and physicians at all levels, other specialties were included for completeness.

Methods

A questionnaire was sent to 265 doctors and 114 second year clinical medical students at St Bartholomew's Hospital. A total of 59 second year student nurses were approached directly after teaching sessions unrelated to blood pressure. The questionnaire included the following questions:

1. Do you consider that BP should be routinely measured in all hospital outpatients regardless of complaint?
2. Should BP be measured routinely in all hospital in-patients regardless of complaint?
3. When considering whether to treat BP, do you measure it with the patient standing, sitting, lying down, or in the position in which you find them?
4. When measuring diastolic BP, do you routinely take the reading at the point of muffling (phase IV), or the disappearance of the sounds (phase V), or note both?
5. Were you taught to use phase IV or V?
6. Do you record BP to the nearest 10, 5, 2 or 1 mmHg?
7. How many times do you measure BP before making a decision as to treatment?
8. At what level of diastolic BP would you begin to treat an asymptomatic 50 year old man for hypertension with drugs?
9. What sources of information have influenced you in your answers to these questions?
Questions 3, 7, 8 and 9 were only answered by doctors and medical students. If a respondent used phase IV diastolic blood pressure, his or her answer to question 8 was corrected to phase V by subtracting an arbitrary 5 mmHg.

Each questionnaire was labelled with the department (medicine, surgery, obstetrics and gynaecology, etc.) and grade (consultant, senior registrar, etc.). Academic staff were referred to by their honorary National Health Service grade: professors, readers and senior lecturer were included as consultants, and lecturers as senior registrars. Recipients could elect to: return the completed questionnaire; return the completed questionnaire after removing their name; or return the questionnaire unanswered to prevent being asked again. If no reply was received initially, a second questionnaire was sent.

Results

Completed questionnaires were returned by 203 out of 265 doctors (77%), 68 out of 114 medical students (60%) and all 59 student nurses. The overall response rate was 330/438 (75%), of which 92/330 (28%) elected to remain anonymous. There was a large variability in response rate amongst different grades of medical staff.

Amongst doctors 186/190 (98%) and amongst medical students 65/68 (96%), it was thought that BP should be measured routinely in in-patients compared with only 41/59 (69%) student nurses, whilst only 133/187 (71%) doctors, 57/68 (84%) medical students and 48/59 (81%) student nurses thought that routine outpatient recordings should be made.

Although there was a majority of consultants who measured phase IV alone (51%), amongst junior doctors, student nurses and medical students, the majority measured phase V alone (Table I). This contrasts with a consistently lower proportion who were taught to use phase V alone (Table I). Most respondents (77%) measured BP to the nearest 5 mmHg and some (4%) still record to the nearest 10 mmHg (Table II). Amongst junior medical staff 74/94 (79%) record to the nearest 5 or 10 mmHg.

Opinions regarding treatment of hypertension also differ widely. Whilst 26% of doctors and medical students thought that treatment should begin at diastolic BP levels of 100 mmHg (Figure 1), 11% of physicians would not begin treatment until the level exceeds 105 mmHg. Considering diastolic BP values of 85, 90 and 95 mmHg together, 58% of all doctors and 55% of physicians would treat at diastolic BP levels below 100 mmHg.

Most doctors and medical students felt that BP needed to be measured three times before starting drug treatment, although we did not ask about the number of occasions on which these readings should be taken. The lying position was the most popular with only 15% including a sitting BP measurement (Table III).

The majority 127/152 (51%) of doctors and medical students, and 63/75 (84%) of physicians said that they were influenced by articles in the British Medical Journal/Lancet for the Drug and Therapeutics Bulletin the respective figures were.

<table>
<thead>
<tr>
<th>Method taught</th>
<th>Method used</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n = 319)</td>
<td>(n = 313)</td>
</tr>
<tr>
<td>All</td>
<td>13 (4)</td>
</tr>
<tr>
<td>Physicians</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Medical students</td>
<td>3 (5)</td>
</tr>
<tr>
<td>Student nurses</td>
<td>1 (2)</td>
</tr>
</tbody>
</table>
Table III  Numbers (and percentages) of doctors and medical students who when considering whether to treat blood pressure measure it with the patient standing, sitting, lying down or the position in which they found them (n = 249)

<table>
<thead>
<tr>
<th>Position</th>
<th>Physicians only</th>
<th>Medical students only</th>
<th>Total doctors and medical students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lying</td>
<td>32 (42)</td>
<td>20 (30)</td>
<td>100 (40)</td>
</tr>
<tr>
<td>Sitting</td>
<td>9 (12)</td>
<td>13 (20)</td>
<td>32 (13)</td>
</tr>
<tr>
<td>Standing</td>
<td>2 (3)</td>
<td>1 (2)</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Lying and sitting</td>
<td>1 (1)</td>
<td>0</td>
<td>5 (2)</td>
</tr>
<tr>
<td>Sitting and standing</td>
<td>1 (1)</td>
<td>0</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Lying and standing</td>
<td>21 (28)</td>
<td>22 (33)</td>
<td>65 (26)</td>
</tr>
<tr>
<td>As found</td>
<td>10 (13)</td>
<td>10 (15)</td>
<td>2 (17)</td>
</tr>
</tbody>
</table>

Figure 1  Number of medical students only, physicians only and all doctors and medical students who would treat an asymptomatic 50 year old man at each level of diastolic BP.

91/252 (36%) and 46/75 (61%), and for lecturers 131/184 (71%) and 61/75 (81%).

Discussion

The response rate of 330/438 (75%) was adequate and similar to previous studies. Consultants returned the most questionnaires 100/103 (97%) whilst house officers returned the least 20/40 (50%). The 100% response rate from the student nurses was probably a reflection of the method of direct approach.

Whilst there was general agreement amongst medical staff that BP should be recorded in inpatients, student nurses were the only group where the proportion was below 90%. This group is most likely to be the one to have the responsibility for making the recordings. Routine outpatient recordings were not felt appropriate by many, particularly by those responding from the Departments of Radiotherapy 1/6 (17%), Surgery 19/44 (43%) and Accident & Emergency 5/8 (63%). These results are broadly similar to the previous study performed at this hospital and that of Taylor et al. except that Taylor et al. found that more respondents (83% of doctors) thought that BP should be routinely measured in outpatients.

Most hypertension treatment trials have used sitting blood pressure measurements, hence it is surprising that so few individuals rely on sitting readings when making treatment decisions.

Despite recommendations endorsed by the British Hypertension Society and Medical Research Council that phase V should be used (and phase IV in pregnancy), 35% of respondents were still using phase IV and 28% of medical students are still taught to do so. However, our results suggest a continued trend towards the use of phase V with 49% of consultants and 71% of medical students now using phase V. Furthermore, in our previous study the majority of nurses were taught (84%) and used (75%) phase IV, whilst this study suggests that incorporation of the results of the previous study into student nurse teaching may have led to 63% being taught and 71% using phase V. This should be implemented in medical student teaching. In contrast, medical students performed best in terms of recording BP to the nearest 2 mmHg and student nurses performed worst (Table II). Our figure of 79% of junior medical staff recording to the nearest 5 or 10 mmHg is higher than the 59% of junior doctors found by Feher et al.

In our previous study, 5% of doctors would not treat an asymptomatic 50 year old man at diastolic levels less than 105 mmHg. It is worrying that the present study shows an increased proportion of doctors (17%) and especially physicians (11%) failing to treat until a level of 105 mmHg is reached, even though there is good evidence that treatment should be started at a level of 100 mmHg or even lower levels.

It is not surprising that the majority of physicians have been influenced by the literature, although this is not so for doctors of the other clinical specialties who would not be expected to
initiate treatment for hypertension, and medical students. Since 1984 when our first paper appeared, publications have appeared in the *Drug and Therapeutics Bulletin* and the *British Medical Journal* regarding the detection and management of mild hypertension. These and other publications do not seem to have influenced attitudes.

Thus the divergent views on the measurement of BP and management of hypertension previously reported persist and have not been resolved by recent therapeutic trials or review articles. Whilst nurse educators have been successful in improving student nurse education, the same cannot be said of medical student education. This may be related to a lack of formalized teaching of blood pressure recording to medical students.

### References


Views of hospital staff on the management of hypertension.
P. J. Hutchinson, A. S. Trill, P. Turner and S. H. Jackson

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