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Are physicians underestimating the challenges of hypertension management? Results from the Supporting Hypertension Awareness and Research Europe-wide (SHARE) survey

Serap Erdine¹, Josep Redon², Michael Böhm³, Claudio Ferri⁴, Rainer Kolloch⁵, Reinhold Kreutz⁶, Stéphane Laurent⁷, Alexandre Persu⁸ and Roland E Schmieder⁹ (on behalf of the SHARE Steering Committee)

Abstract

Aims: The Supporting Hypertension Awareness and Research Europe-wide (SHARE) survey aimed to qualify the key challenges that physicians face when trying to get patients to recommended blood pressure (BP) goals.

Methods and results: The survey was open to physicians involved in the treatment of hypertension, was anonymous, and included 45 questions covering: physicians' demographic information, familiarity with BP treatment guidelines, views on the BP targets recommended by the 2007 European Society of Hypertension and European Society of Cardiology (ESH-ESC) guidelines, and perceptions on the proportion of 'challenging patients' in hypertension management (defined as patients not achieving the BP goal, where the BP goal is at least <140/90 mm Hg, and <130/80 mm Hg for patients with co-morbidities or high CV risk). Physicians significantly underestimated the proportions of their 'challenging patients' with hypertension compared with their perceptions of the proportions achieving 2007 ESH-ESC BP targets ($p < 0.0001$). The majority of cardiologists (75.5%) and general/family practitioners (GPs) (81.3%) as well as internists (59.3%) ($p < 0.05$ for cardiologists and GPs vs internists) felt that it was a challenge to get their patients to target BP, stating that only 43.2%, 57.4% and 38.2% of their patients, respectively, achieved these targets in practice ($p < 0.05$ for GPs vs cardiologists and internists).

Conclusion: Physicians may underestimate the proportion of 'challenging patients' with hypertension and there is a need to improve their BP control. Increasing physicians' awareness about the risks of uncontrolled BP and improving compliance are two possible ways to improve management of hypertension.

Keywords

Hypertension, guidelines, treatment goals, physician attitudes

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Introduction

The 2007 European Society of Hypertension and European Society of Cardiology (ESH-ESC) treatment guidelines recommended a blood pressure (BP) target of <140/90 mm Hg in all hypertensive patients and <130/80 mm Hg in patients with co-morbidities and those with high Cardiovascular (CV) risks.¹ However, BP control rates remain suboptimal, with <50% of patients who are diagnosed and treated achieving the BP goal^{2,3} and even worse levels of BP control in the general population.² A white paper on uncontrolled hypertension³ has proposed that the achievement of BP <140/90 mm Hg in all patients is the most urgent need, and that any patient not reaching this BP goal is a 'challenging patient' whose treatment should be optimised until the BP goal is reached.³

The Supporting Hypertension Awareness and Research Europe-wide (SHARE) physician survey was designed to further qualify the challenges that European physicians face when trying to get 'challenging patients' to the BP goal. We hypothesized that 'challenging patients' with hypertension may be less frequently identified in primary care than in secondary care in Europe. The aim of this analysis was to evaluate and compare responses from the European cardiologists, internists and general/family practitioners (GPs) who completed the SHARE survey.

Methods

The analysis reported here utilized data derived from the European sample of physicians who completed the SHARE survey. The survey methodology has previously been published.⁴

The survey was conducted between May and December 2009 and was open to Healthcare professionals involved in the treatment of hypertension. The survey was anonymous and was designed to take 15 minutes to complete; however, physicians did have the option to input their contact information at the end of the survey. In total, there were 45 questions focusing on the following topics: physicians' demographic information; factors that influence treatment choices; familiarity with, and opinions about, the treatment guidelines; acceptable BP levels in hypertensive patients; perceptions about the number of 'challenging patients' (defined as patients not achieving the BP goal, where the BP goal is at least <140/90 mm Hg, and <130/80 mm Hg for patients with co-morbidities or high CV risk);¹ and opinions on different therapeutic approaches. Physicians completed the survey in the following ways: online at the SHARE website (<http://www.SHARE-hypertension.com>); via an email request from DocCheck®; via an external market research

company (Synovate; in Turkey only); and at relevant European congresses held in 2009.⁴

Statistical analysis

Quantitative parameters are expressed as mean values ($\pm$ standard deviation (SD)). Qualitative parameters are expressed as absolute and relative frequencies. Comparisons between quantitative parameters were performed using *t*-tests. Two-sided *p*-values were interpreted in an exploratory sense. Comparisons between qualitative parameters were performed using *z*-tests and Chi-square tests while logistic regression methods were used to assess associations. Where *p*-values <0.05 were found they were considered to indicate a statistically significant difference and *p*-values <0.1 were considered to indicate differences of lesser significance. In some instances, some questions had missing responses. To account for this, the number of responses available for each analysis is reported, and, if applicable, relative frequencies are reported as adjusted percentages excluding missing values. All statistical analyses were conducted using IBM SPSS Statistics 19.

Results

In total, 2629 of the 2716 physicians who completed the SHARE survey were from Europe. These physicians were from a wide range of specialties including primary (*n* = 1563 (59%)) and secondary care (*n* = 1066 (41%)). The mean ($\pm$ SD) age of the physicians was 45.6 $\pm$ 10.6 years and 68% physicians were male. The majority of physicians (63%) had more than 10 years of experience of treating patients with hypertension and 51% were office-based. Further demographic information has been published previously.⁴

Physicians' familiarity with hypertension treatment guidelines

In response to the question 'Which of the following BP guidelines are you familiar with?', significantly greater proportions of cardiologists (74% and 40%) than GPs (42% and 10%) were familiar with the 2007 ESH-ESC and American JNC-7 guidelines, respectively (*p* < 0.05 vs GPs). However, the proportion of physicians familiar with local and national/regional hypertension treatment guidelines, respectively, was significantly greater among GPs (61% and 70%) compared with cardiologists (28% and 42%) or internists (41% and 40%) (*p* < 0.05 vs cardiologists and internists). In addition, in response to the question 'How would you rate these sources of guidelines in relation to your day-to-day clinical practice?', it became apparent that, on a scale of 1 to 7 (where 1 = low importance and 7 = high

Figure 1. Physicians' ranking of the challenges that prevent patients from attaining European Society of Hypertension and European Society of Cardiology (ESH-ESC) blood pressure targets, according to speciality.

n = number of physicians who provided a response, 1 = low importance, 7 = high importance; * p < 0.05 vs cardiologists and internists; † p < 0.05 internists vs cardiologists.

importance), cardiologists (4.59–5.93) and internists (4.34–5.65) found the 2007 ESH-ESC, JNC-7, WHO/ISH and UK guidelines to be significantly more useful than the GPs did (3.18–4.55) (p < 0.05 vs cardiologists and internists).

Physicians' opinions on BP targets and getting patients to target in practice

When they were asked the question 'Using the ESH-ESC BP control guidelines as an example, what are your opinions on the BP target levels?', significantly more cardiologists (92.5%) and internists (92.9%) than GPs (77.5%) (p < 0.05 vs cardiologists and internists) responded that BP targets recommended in the ESH-ESC treatment guidelines¹ were 'about right' or 'not tight enough'. A significantly higher proportion of GPs (22.5%) thought that these targets were 'too tight and not achievable' compared with cardiologists (7.5%) and internists (7.1%) respectively (p < 0.05 vs cardiologists and internists).

In response to the question 'Is it a challenge to get your patients to guideline target BP as recommended by the ESH-ESC?', the majority of cardiologists (75.5%) and GPs (81.3%) as well as internists (59.3%) (p < 0.05 for cardiologists and GPs vs internists) responded 'yes', stating that only 43.2%, 57.4% and 38.2% of their patients, respectively, achieved

these targets in practice (p < 0.05 for GPs vs cardiologists and internists). The physicians who answered 'yes' included a greater proportion of female doctors and tended to be older. The two response groups were broadly similar in terms of the duration of their experience of treating patients with hypertension but, in the 'yes' group, the proportion of physicians with between four and 10 years relevant experience was lower than in the 'no' group (19% vs 23%, respectively; p < 0.05 between groups). Interestingly, attendance at meetings in the previous two years was significantly higher among the physicians who reported that getting patients to the BP goal was a challenge compared with those who felt that it was not.

When asked to rank the factors that prevent patients from achieving the 2007 ESH-ESC BP targets, patient-related factors were ranked higher than other factors, especially by cardiologists and internists compared with GPs (p < 0.05 vs cardiologists and internists) (Figure 1).

Physicians' perceptions of 'challenging patients' and their treatment

When asked what proportion of their patients were 'challenging patients' (according to the survey definition) physicians' estimations were significantly lower than their estimations of the proportions of patients not achieving ESH-ESC BP goals (p < 0.0001 between

Figure 2. Physicians' perceptions about the proportion of their patients who are not achieving European Society of Hypertension and European Society of Cardiology (ESH-ESC) blood pressure targets and the proportion of their patients who are 'challenging patients', according to speciality.

n = number of physicians who provided a response; ¶ *p* < 0.0001 vs 'challenging patients'; **p* < 0.05 vs cardiologists and internists; †*p* < 0.05 internists vs cardiologists and GPs.

groups) (Figure 2). In addition, GPs felt that a significantly lower proportion of their patients were not achieving BP goals (*p* < 0.05 vs cardiologists and internists) (Figure 2). On average, cardiologists and internists aimed to get a significantly lower proportion of their 'challenging patients' to the BP goal (47.5% and 35.2%, respectively) than GPs (61.1%; *p* < 0.05 vs cardiologists and internists).

Time taken for physicians to adjust medication

When asked 'For your 'challenging patients', how long do you wait before you adjust medication in your effort to get them to recommended BP goal?', higher proportions of cardiologists and internists said that they would adjust treatment immediately (35.6% and 36.9% vs 18.6%, respectively) and within a month (41.0% and 44.4% vs 39.5%, respectively) in an effort to get their 'challenging patients' to the BP goal, compared with GPs (*p* < 0.05 vs cardiologists and internists).

Overall, the majority of cardiologists, internists and GPs wanted their general hypertension patients to visit their office for review within one to three months (Figure 3). However, the majority of cardiologists, internists and GPs said that they would want their

'challenging patients' to return for an examination within a month while significantly lower proportions said that they would want patients with controlled BP to return within this time frame (*p* < 0.0001 vs 'controlled patients'; Figure 3).

Discussion

The SHARE survey indicated that familiarity with the 2007 ESH-ESC guidelines on the management of hypertension varied significantly between cardiologists and GPs which points to a need to improve awareness of BP targets in Europe. These findings are consistent with those of the Reduction of Atherothrombosis for Continued Health Registry, which showed that CV risk factors, including hypertension, are common but largely undertreated and undercontrolled.⁵ In addition, results from the EUROASPIRE surveys have reported poor BP control rates in patients with coronary heart disease⁶⁻⁸ despite large increases in prescriptions for all classes of antihypertensive drugs⁹ and have shown a continuing gap between the standards set in Cardiovascular disease prevention guidelines and clinical practice.⁹

The majority of physician respondents felt that the 2007 ESH-ESC BP targets¹ were 'about right' or 'not

Figure 3. Time-frame during which physicians would like their 'challenging patients' and patients with controlled BP to return for an examination, according to specialty.

BP: blood pressure; n = number of physicians who provided a response; *** $p < 0.0001$ vs controlled patients; * $p < 0.05$ vs cardiologists and internists; † $p < 0.05$ internists vs cardiologists and GPs; ‡ $p < 0.05$ vs internists.

tight enough', but suggested that they find it hard to get their hypertensive patients to these BP goals in practice. One potential explanation for the apparent estimation of relatively greater success in getting patients to The BP goal among GPs, compared with cardiologists and internists, may be that patients who receive treatment

for hypertension in a secondary care setting are more likely to have multiple risk factors and may be more difficult to treat than those seen in primary care. Indeed, physicians do not view all of their patients with uncontrolled BP in the same way, in line with the theory that some physicians perceive that only

high-risk individuals with multiple co-morbidities are a challenge to get to the BP goal.³

Clinical inertia is a common problem in the management of patients with asymptomatic chronic illnesses.^{10,11} Better management of hypertension will require some reorganization of medical education and practice to include a greater emphasis on approaches to overcome the challenge of inertia and facilitate physician and multidisciplinary team responses to asymptomatic problems.^{4,11,12} We recommend that, as appropriate BP lowering has been shown to improve CV outcomes,¹² physicians should adjust treatment in a timely fashion in all 'challenging patients' and not just in patients with co-morbidities. However, the survey suggests that GPs may take longer to adjust treatment than cardiologists and internists. Although some physicians may have been underestimating the increased risk of CV and renal events in these patients, this could also have been the time frame during which physicians wait to see whether patients' current lifestyle modifications or treatments will have an effect.¹³

In line with the white paper,³ cardiologists, internists and GPs all perceived that patient factors, low health authority support, frequent physician inertia, tighter recommended BP goals and ineffective medical and non-medical treatment strategies were obstacles that prevented patients from achieving BP goals. When asked to rank these challenges in order of importance, physicians from all three specialities perceived that physician inertia/hesitation had less of an impact on BP control rates than patient factors. Thus, the SHARE results suggest that cardiologists, internists and GPs may be underestimating the impact that they can have on improving BP control.¹³

A number of simple steps that can be taken by physicians to improve BP control rates have been identified previously³ and have been reinforced by the SHARE survey. The application of hypertension guidelines in practice could be simplified so that any patient with BP $\geq 140/90$ mm Hg is regarded as a 'challenging patient' and managed accordingly³ although there is less evidence to support this target in elderly hypertensive patients.¹³ In addition, one of the easiest steps for physicians to implement is the simplification of treatment to improve patient compliance.³ The American Society of Hypertension¹⁴ has stressed that empowering informed, activated patients is one of the essential strategies for improving adherence and persistence with antihypertensive therapy. The reappraisal of the 2009 ESH-ESC hypertension guidelines has recommended that fixed-dose combinations should be used wherever possible, rather than the administration of separate agents, to improve compliance in patients who require combination therapy to achieve BP goals.¹³

Physician surveys are not clinical studies and are subject to a number of possible limitations. In particular, due to the design of the survey, it was not possible to determine a response rate for the sample of respondents in relation to the physician population. There is a possibility that the inclusion of physicians practising in different health systems might have influenced the survey results, although selection bias cannot be completely excluded given that nearly 40% of the respondents came from two countries (Turkey and Spain). Web-based surveys are a popular way of collating quantitative data from respondents due to the ability to rapidly reach a large target audience. However, there is a certain demographic subset of respondents who are more likely to participate than others as, typically, they have better computer and internet access and are better educated on how to use such tools. Thus, the respondents who completed the survey questionnaire may not be completely representative of the physician population who treat hypertension. In addition, some respondents were recruited at meetings related to the treatment of hypertension and this may have introduced a bias towards the inclusion of physicians who had a particular interest in hypertension management. In view of this, the survey may reflect better informed attitudes than are typical.

Conclusions

The SHARE survey provides useful insights into the management of hypertension in Europe. Physicians appeared to underestimate the proportion of 'challenging patients' with hypertension, and by implication the health and economic burdens associated with uncontrolled hypertension. The survey suggests that there was a rather lower level of familiarity with the 2007 ESH-ESC hypertension treatment guidelines among the GPs than the cardiologists and internists who responded to the survey.

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Conflicts of interest

None declared.

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