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Barriers to adherence to hypertension guidelines among GPs in southern Sweden: A survey

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Abstract

Objective. To evaluate barriers to adherence to hypertension guidelines among publicly employed general practitioners (GPs). *Design.* Questionnaire-based survey distributed to GPs in 24 randomly selected primary care centres in the Region of Skåne in southern Sweden. *Subjects.* A total of 109 GPs received a self-administered questionnaire and 90 of them responded. *Main outcome measures.* Use of risk assessment programmes. Reasons to postpone or abstain from pharmacological treatment for the management of hypertension. *Results.* Reported managing of high blood pressure (BP) varied. In all, 53% (95% CI 42–64%) of the GPs used risk assessment programmes and nine out of 10 acknowledged blood pressure target levels. Only one in 10 did not inform the patients about these levels. The range for immediate initiating pharmacological treatment was a systolic BP 140–220 (median 170) mmHg and diastolic BP 90–110 (median 100) mmHg. One-third (32%; 95% CI 22–42%) of the GPs postponed or abstained from pharmacological treatment of hypertension due to a patient's advanced age. No statistically significant associations were observed between GPs' gender, professional experience (i.e. in terms of specialist family medicine and by number of years in practice), and specific reasons to postpone or abstain from pharmacological treatment of hypertension. *Conclusion.* These data suggest that GPs accept higher blood pressure levels than recommended in clinical guidelines. Old age of the patient seems to be an important barrier among GPs when considering pharmacological treatment for the management of hypertension.

Key Words: *Barriers, family practice, guidelines, hypertension, primary care, survey*

In Sweden it has been estimated that there are about 1.8 million persons with hypertension, which constitutes about 30% of the adult population [1]. Hypertension is very common among patients in primary care [2,3]. It takes a huge amount of resources including time for healthcare workers as well as costs for medication.

International and national programmes have recently been presented with clear guidelines and recommended blood pressure (BP) targets for treatment of hypertension (Figure 1) [4]. The use of risk-assessment instruments has been recommended in patients with hypertension. Despite this, adequate BP control is only achieved in a minority of the patients treated for hypertension in Sweden, Europe, and North America [1,2,5]. European studies have

Despite the presence of international and national clinical guidelines on treatment of hypertension many primary care patients are not treated effectively in accordance with these guidelines.

- GPs in southern Sweden accept higher blood pressure levels than recommended in guidelines.
- 50% of the GPs used risk assessment programmes. However, nine out of 10 acknowledged blood pressure target levels and informed patients about the target.
- One-third of the GPs reported old age of the patients as a barrier when considering pharmacological treatment for the management of hypertension.

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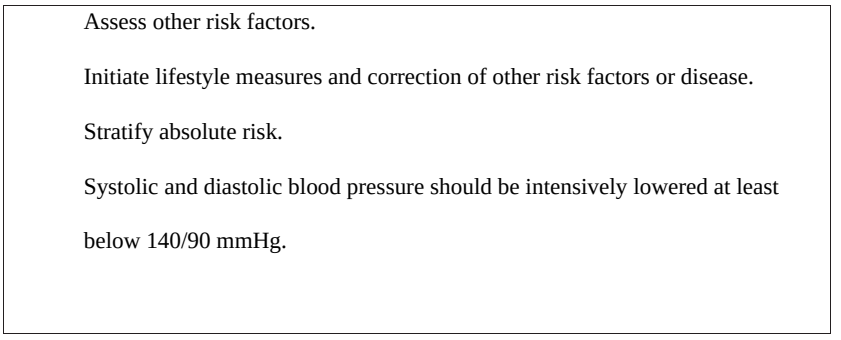

Figure 1. Main recommendations based on flow-chart published in 2003 European Society of Hypertension–European Society of Cardiology guidelines for the management of arterial hypertension [4].

shown that general practitioners (GPs) accept higher blood pressure levels than recommended in guidelines [6,7]. The reasons for the poor adherence to guidelines among GPs are not known. Various reasons could be postulated to contribute to inappropriate BP control. Among these are non-compliance and non-attendance on part of the patient, lack of knowledge or concern over other factors from the GP, as well as organisational shortcomings.

Among publicly employed GPs in southern Sweden only 20% of the treated hypertensive patients reached the currently recommended target level (<140/90 mmHg) [8]. These results on actual practice are in line with national figures on blood pressure treatment [1]. The results indicated possible shortcomings in the implementation of clinical guidelines for management of hypertension. This illustrated the need for continued follow-up of defined groups of patients in order to improve quality of care. One can assume that implementation of clinical guidelines can be facilitated if the doctors' barriers towards treatment of hypertension are better known.

Thus, the objective of this study was to evaluate barriers to adherence to hypertension guidelines among publicly employed GPs.

Material and methods

Participants

The Region of Skåne is situated in the most southern part of Sweden with approx. 1 150 000 inhabitants. Primary care encompasses approximately 800 GPs of whom 500 are publicly employed in 126 primary healthcare centres.

Of these 126 primary healthcare centres, 24 primary healthcare centres including 109 GPs were randomly selected to receive a self-administered questionnaire. An introductory letter about the survey, including the questionnaire, was sent to the head of each primary healthcare centre. The head of the primary healthcare centre received telephone reminders. All GPs were asked to answer the questionnaire on barriers to adherence to current guidelines (ESH/ESC 2003) [4] and general praxis in treatment of high blood pressure.

Questionnaire

The questionnaire was constructed by the authors. The questionnaire was tested for comprehension and usefulness in a pilot study on a sample of six GPs from the Region of Skåne. Pilot data were not incorporated in the survey. GP's age, gender, and professional experience (in years) as a family doctor were registered. Questions were based on the recommendations (see Figure 1) from ESH/ESC Hypertension Guidelines [4] and targeted on whether the GP: (a) regularly used a risk-assessment programme, (b) used specific BP target goals. These questions were addressed with the response choices of "yes" and "no". Blood pressure level for initiation of pharmacological treatment and the timing after awaiting result of initial lifestyle changes were recorded. Up to 10 alternatives (Table I) for reasons to postpone or abstain from pharmacological treatment of hypertension were presented to the GPs. The alternatives (with response choices of "yes" and "no") were not ranked and the GP had the possibility to choose multiple alternatives. No part of the questionnaire was open ended. No formal test for reproducibility or validity of the questionnaire has been performed.

Statistical methods

Data were analysed using SPSS (version 14.0). We examined the associations between individual characteristics and reported clinical behaviour and also the relationships between the GPs' barriers towards hypertension treatment and GPs' gender and professional experience (i.e. in terms of being a specialist in family medicine and by number of years in practice as specialist), respectively. The associations were estimated by chi-squared and Fisher's Exact test

Table I. Which circumstances are reasons to postpone or abstain from pharmacological treatment of hypertension?

The patient should first within six months try to change lifestyle factors, %	85 (78–93)
The patient is not motivated to be on daily pharmacological treatment, %	48 (37–58)
Increased blood pressure but all other risk factors within acceptable levels, %	47 (36–57)
Pharmacological treatment could lower motivation for lifestyle changes, %	38 (27–48)
The benefit for the patient is not obvious, %	32 (22–42)
The patient's age is questionable regarding pharmacological treatment, %	36 (26–47)
(a) The patient is too old to start treatment, %	32 (22–42)
(b) The patient is too young to start lifelong treatment, %	9 (3–16)
The benefit in terms of risk reduction due to pharmacological treatment is less than the negative impact on quality of life, %	30 (20–39)
Too great risks for side effects, %	22 (13–31)
No additional benefit from adding more pharmacological treatment to an already multiple-treated patient, %	15 (7–23)

Notes: Number of GP responders: n = 88. Each GP had the possibility to agree or disagree with more than one of the above listed alternatives. Presented as percentages (95% CI).

with 95% confidence interval (95% CI) and by non-parametric Mann–Whitney test. A p-value <0.05 was considered as significant.

Ethics

There were no ethical issues and no need for formal approval from an ethical committee. Participation in this study was anonymous and each GP's own choice.

Results

The questionnaire was sent to 109 GPs in 24 different primary healthcare centres. Of 109 eligible GPs 90 responded, giving a response rate of 83%. The characteristics of GPs are presented in Table II. GPs' reported managing of high blood pressure varied. The GPs were given 10 alternatives regarding reasons to postpone or abstain from pharmacological treatment of hypertension (see Table I). Two GPs declined to respond to any of the listed alternatives. Almost three out of four (67%; 95% CI 57–67%) GPs (n = 88) agreed with at least three of the listed alternatives. Of all GPs, 29% awaited the effects of lifestyle changes for three months, 66% for six months, and 5% up to 12 months before initiating pharmacological treatment. Almost four out of 10 GPs might postpone or abstain from pharmacological treatment if the patient were either at old or young age (see Table I). Some 32% (95% CI 22–42%) and 9% (95% CI 3–16%) of the GPs reported that old and young age, respectively, are reasons not to use drugs in treatment of hypertensive patients. Furthermore, every third GP (30%; 95% CI 20–39%) agreed to the alternative that the benefit in terms of risk reduction due to pharmacological treatment is less than the possible negative impact on the patient's quality of life.

In total, 53% (95% CI 42–64%) of the GPs used risk-assessment programmes and nine out of 10 (94%; 95% CI 89–99%) acknowledged blood pressure target levels (Table III). Only one in 10 did not inform the patients about these levels. Every second GP started pharmacological treatment when systolic blood pressure (SBP) levels were $\geq$ 170 mmHg and/or diastolic blood pressure (DBP) $\geq$100 mmHg. The range for initiating pharmacological treatment immediately was SBP 140–220 mmHg and/or DBP 90–110 mmHg. There were no statistically significant associations between GPs' gender or professional experience and barriers towards hypertension treatment (data not shown).

Discussion

It is concluded in this study that publicly employed GPs in southern Sweden accept higher BP levels than recommended in guidelines for management of hypertension. Furthermore, old age of the patient seems to be an important barrier when GPs are considering pharmacological treatment for the management of hypertension.

There is a considerable variability in self-reported clinical practice in treatment of hypertension. The majority of GPs included different lifestyle factors in their global assessment of risk factors, but not all of them used a global assessment programme of the patients' predicted CV risk. In a Dutch study the results were similar [9].

Table II. Characteristics of GP responders.

	Men (n = 50)	Women (n = 40)	Total (n = 90)
Specialists in family medicine, %	84	90	88
Median number of practising years as specialist in family medicine (range)	13 (0–41)	14 (0–32)	13.5 (0–41)
Resident or specialist in another field, %	16	10	13

Note: Figures are presented as percentages of responders if not otherwise stated.

Table III. Use of risk-assessment programmes and target blood pressure among GP responders.

	Men (n = 50)	Women (n = 40)	Total (n = 90)
Use of risk-assessment programmes in management of hypertension	51 (37–66)	55 (38–72)	53 (42–64)
Use of target blood pressure in treatment of hypertension	94 (88–101)	95 (88–103)	94 (89–99)
Informs the patient about target blood pressure	88 (79–97)	92 (83–101)	90 (83–96)

Note: Figures are presented as percentages (95% CI) of responders.

Despite the established guidelines for managing hypertension many patients are not treated according to recommended BP levels [4]. Clinical inertia is defined as recognition of the problem but failure to act, which is possibly related to overestimation of care provided, use of "soft" reasons to avoid intensification of therapy, or lack of training [10]. Sometimes the inertia may be appropriate. There might be a difference between effects in controlled trials and effectiveness in primary care patients. The GP has to take into account all circumstances for each patient, e.g. other risk factors, concurrent disease, medications, and function of different organs. In other survey studies GPs accepted high blood pressure levels [11,12]. In the Region of Skåne there are regional recommendations for prescription of drugs for treatment of hypertension based on updated evidence-based studies as well as the aim to enhance cost-effectiveness [13]. These regional guidelines are updated yearly. In order to be successful these guidelines should move clinical behaviour closer to the behaviours the guidelines recommend. Many GPs consider guidelines useful in clinical practice [14,15]. However, some physicians remain sceptical regarding guidelines [16]. The barriers pointed out in this study may be related to this scepticism. This might be one reason for the non-adherence to guidelines. There is also a lack of convincing evidence that the use of clinical guidelines improves patient outcomes in primary care [17].

We did not find any statistically significant association between GPs' gender or professional experience and barriers towards hypertension treatment. As no formal power calculation was performed we cannot rule out the possibility that the present study might be underpowered to address these issues. However, awareness, agreement, adoption, or adherence to hypertension guidelines in general practice or to pharmacological treatment of patients with stable angina pectoris has not been related to physicians' gender or speciality training in other studies [18,19].

Every third GP in the present study reported patients' old age as a reason to postpone or abstain from pharmacological treatment in the management of hypertension. This finding is surprising considering the evidence-based benefit of antihypertensive drug treatment in terms of reduced cardiovascular morbidity and mortality in older patients [20]. Furthermore, based on several randomised controlled trials a Cochrane report released in 2000 stated that blood pressure-lowering drug treatment of healthy older persons with hypertension is highly efficacious [21]. Nevertheless, many GPs see old age of the patient as an obstacle to effective treatment. Whether this is related to awareness, agreement, or adoption of current hypertension recommendations or concerns about side effects of the treatment remains to be evaluated.

On the other hand, every tenth GP in our study report young age as an obstacle to pharmacological treatment in the management of hypertension. For the 5% that consider both old and young age as obstacles, a question could be raised as to whether these GPs think any hypertensive patients should be pharmacologically treated.

Almost one-third of the GPs abstain from treatment because the benefit for the patient is not obvious. This is of course true in the sense that a reduction of BP may have little effect on the individual patient's predicted CV risk, but on a population level a reduction of the average BP may have a substantial effect on vascular mortality [22]. Patient factors are also very important in pharmacological treatment of healthy persons with hypertension. In this study almost half of the GPs consider patient's lack of motivation as a reason for abstaining from pharmacological treatment. In a Finnish study, lack of motivation was the most common perceived problem for follow-up of hypertension [23]. In that study two-thirds of the patients had difficulties in accepting that they were hypertensive. Patients often have little knowledge of hypertension and may not be aware of the importance of treatment [24].

Among the GPs in the present study, 38% reported that pharmacological treatment could lower motivation for lifestyle changes. Healthy lifestyle is important in the primary prevention of cardiovascular disease [25], as is pharmacological treatment.

The present study has some strengths, but also limitations. The GPs were randomly selected and the response rate of the questionnaire was high (i.e. 83%). One main limitation of this study is that we did not measure adherence to guidelines, but rather self-reported possible barriers towards these. Results from physician surveys may differ from actual performance, thus survey data might not lead to valid conclusions regarding adherence. To be able to measure adherence to guidelines it has been suggested that "ideally, several physician practices should be examined, including assessment, treatment, achievement of blood pressure goals, follow-up, and monitoring" [26]. Within the same area of southern Sweden as our present study, a study on actual treatment showed that only 20% of the treated hypertensive patients reached target BP [8]. Another shortcoming is that no attempt was made to address non-participation in our survey, thus the reasons for abstaining are unknown. Furthermore, we lack information on reproducibility and validity of the questionnaire used. Whether this has any impact on the results remains to be evaluated.

The barriers that are described in this study could be more thoroughly evaluated in a qualitative study. There is also a need for studies on the relationship between results of such studies and actual practice.

In conclusion, these data suggest that GPs accept higher blood pressure levels than recommended in clinical guidelines. Old age of the patient seems to be an important barrier among GPs when considering pharmacological treatment for the management of hypertension.

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