ORIGINAL ARTICLE

Primary care guidelines: Senior executives' views on changing health centre practices in hypertension treatment

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Abstract

Objective. To describe the adoption of the national Hypertension Guideline in primary care and to evaluate the consistency of the views of the health centre senior executives on the guideline's impact on clinical practices in the treatment of hypertension in their health centres. **Design.** A cross-sectional telephone survey. **Setting.** All municipal health centres in Finland. **Subjects.** Health centres where both the head physician and the senior nursing officer responded. **Main outcome measures.** Agreement in views of the senior executives on the adoption of clinical practices as recommended in the Hypertension Guideline. **Results.** Data were available from 143 health centres in Finland (49%). The views of head physicians and senior nursing officers on the adoption of the Hypertension Guideline were not consistent. Head physicians more often than senior nursing officers (44% vs. 29%, $p < 0.001$) reported that no agreements on recording target blood pressure in patient records existed. A similar discrepancy was seen in recording cardiovascular risk (64% vs. 44%, $p < 0.001$). Senior executives agreed best on the calibration of sphygmomanometers and the provision of weight-control group counselling. **Conclusions.** Hypertension Guideline recommendations that require joint agreements between professionals are less often adopted than simple, precise recommendations. More emphasis on effective multidisciplinary collaboration is needed.

Key Words: Family practice, guideline adherence, hypertension, practice guidelines, primary healthcare

Hypertension is a major risk factor for cardiovascular disease (CVD). Hypertension is still inadequately treated and target blood pressure levels are seldom set [1–2]. Insufficient hypertension control may be caused by patients' non-compliance or lack of motivation [3], but also by inadequate management of clinical practices [4].

Guidelines aim at standardizing the treatment of hypertensive patients and increasing its efficiency [5]. Hypertension treatment has become a multidisciplinary task requiring systematic integration of working processes [6], since nurses are increasingly involved in counselling and monitoring hypertensive patients in primary care. Therefore guidelines for hypertension are intended for both general practitioners and practice nurses [5,7]. The Finnish Medical

Society Duodecim has been producing evidence-based guidelines, the Current Care Guidelines (CC Guideline), since 1997. The Hypertension Guideline [7] was published in 2002 and updated in 2005 (<http://www.kaypahoito.fi>).

Strategies to change clinical practice have mainly been evaluated from an individual perspective [8], even though organizational factors such as education and contacts between healthcare professionals have proved to be important reasons for change [9]. Health centre senior executives are in charge of implementing multidisciplinary improvements in clinical practice, and need knowledge of evidence-based practices and tools for organizing change in order to achieve best practice.

This study describes the views of the senior executives, which includes the head physicians and senior

Support from health centre senior executives has proved to be an important facilitator in guideline implementation. However, little is known about the extent to which head physicians and senior nursing officers are aware of guideline implementation in their clinics and whether they have consistent views on this.

- The head physicians' and the senior nursing officers' views on guideline implementation differed in several aspects.
- Recommendations related to simple and individual working practices were applied well.
- Recommendations that require more multidisciplinary consent were not optimally adopted.

nursing officers, in Finnish health centres (HCs) on the adoption of the recommendations in the CC Guideline on Hypertension (HT) and evaluates the consistency of their views on the clinical practices derived from the HT Guideline in their health centres.

Material and methods

Setting

In Finland the municipal health centres are responsible for arranging primary healthcare services for the population living in a certain geographical area. HCs are arranged as group practices where general practitioners and nurse practitioners work together. Many HCs also have the opportunity to use the services of physiotherapists and nutritionists. The numbers of GPs in the HC vary, with 10 being the average. The family doctor system (each GP has his/her own list of patients) has been introduced in about 50% of health centres, with other HCs giving appointments to any available physician. Head physicians and senior nursing officers are in operational charge of implementing changes in the health centres. They are the immediate superiors of physicians and nurses.

In Finland most head physicians also see patients. Senior nursing officers mainly do administrative work.

Participants and data collection

This study is part of a larger cross-sectional survey of senior executives in all health centres ($n = 290$) in Finland [10]. In order to study the consistency of views of senior executives in the same health centre, we included only those health centres where both the head physicians and the senior nursing officer had responded. The questionnaire assessed the implementation of the national Hypertension Guideline. Three groups of questions were selected as indicators of hypertension treatment practices, based on recommendations in the HT Guideline [7].

1. agreements on recording practices (three questions);
2. measurement practices (two questions);
3. group counselling (three questions).

The implementation of recording practices and group counselling as a lifestyle intervention were selected as indicators of the local tailoring of the HT Guideline, which has been proved to promote guideline adherence [11–12]. We also asked how familiar the respondents were with the guideline and whether the HT Guideline had caused a change in the division of labour between physicians and nurses.

Data were gathered by computer-assisted telephone interview (CATI) between October and November 2004 (with a pilot in May 2004) by trained interviewers from Statistics Finland [13]. The compilation of statistics is regulated by the Statistics Act. The basic data can only be released in a form whereby individuals cannot be identified. No further ethical approval was needed.

Statistical analyses

For numerical data the results are described in means with standard deviation, while categorical data are described as percentages. Cross-tabulation with a chi-squared test was used to describe familiarity with the

Table I. Characteristics of the respondents.

Characteristics	Profession	
	Head physicians $n = 143$	Senior nurse officers $n = 143$
Female (%)	30	97
Age, years (mean, SD)	51 (7.2)	50 (6.4)
Professional experience, years (mean, SD)	25 (7.7)	26 (7.1)
Working years in health centre (mean, SD)	15 (10.3)	14 (11.2)

Table II. Senior executives' views on the implementation of the HT Guideline recommendations in their health centre.

	Head physician n = 143 (%)			Senior nursing officer n = 143 (%)			p-value
	Yes	No	Does not know	Yes	No	Does not know	
Agreements on recording practices							
Follow-up frequency of blood pressure measurement	60	34	6	73	17	10	.002
Setting blood pressure target level	55	44	1	56	29	15	< .001
Cardiovascular risk evaluation	35	64	1	32	44	25	< .001
Measurement practices in diagnosis							
Regular calibration of sphygmomanometer	80	10	10	90	6	4	.043
Duplicate blood pressure measurement	78	17	5	78	14	8	.626
Group counselling provided by health centre							
Smoking cessation	69	29	1	60	39	1	.087
Weight loss	92	6	1	87	12	1	.202
Exercise	76	22	1	76	24	1	.795

guideline in general. When the respondents were dependent, a McNemar–Bowker test was used to measure whether the distribution of answers was symmetrical. Paired responses were used to measure congruence between the opinions of the head physician and the senior nursing officer in the same health centre. In order to study congruence all “do not know” answers were excluded. Statistical analyses were performed using SPSS 14.0. Two-sided p-values are reported and a p-value < 0.05 was considered significant.

Results

Responses were received from both the head physician and the senior nursing officer at 143 health centres (49% of all health centres). Most respondents (64%) were female and the majority had long work experience (Table I). The majority of the head physicians (84%) and senior nursing officers (67%) were familiar with the HT Guideline, head physicians more often than senior nursing officers ($p = 0.095$). Over half of both professional groups felt that the HT Guideline had led to changes in the division of labour between physicians and nurses in hypertension treatment.

Senior executives' views on implementing the HT Guideline

Agreements on recording practices. A statistically significant difference was found in senior executives' views on agreements made on recording practices (Table II). For all recording practices, physicians replied more often than nurses that agreements had not been made. Senior nursing officers clearly more often than head physicians did not know whether an agreement existed on recording the target level of blood pressure ($p < 0.001$) and cardiovascular risk ($p < 0.001$) in patient records.

Measurement practices and group counselling. According to the senior executives, the measurement practices recommended in the HT Guideline and group counselling were implemented in clinical practices in most health centres. The majority in both professional groups stated that sphygmomanometers are calibrated regularly, senior nursing officers even more often than head physicians ($p < 0.043$). Both groups reported that duplicate blood pressure measurement was used in their health centres and that group counselling was common (see Table II).

Consistency of views of senior executives on implementing the HT Guideline. The highest agreement between the head physician and the senior nursing officer of a health centre was on the adoption of measurement

Table III. Consistency of agreement of head physicians and senior nursing officers on implemented recommendations in clinical practices in the same health centre.

	Paired responses (%)		
	Yes/Yes	No/No	Disagree
Agreements on recording practices			
Follow-up frequency of blood pressure measurement (n = 123)	57	11	32
Setting blood pressure target level (n = 121)	38	17	45
Cardiovascular risk evaluation (n = 108)	17	41	42
Measurement practices in diagnosis			
Regular calibration of sphygmomanometer (n = 125)	85	2	13
Duplicate blood pressure measurement (n = 126)	71	3	26
Group counselling provided by health centre			
Smoking cessation (n = 140)	49	17	34
Weight loss (n = 140)	84	2	14
Exercise (n = 141)	62	9	29

practices and weight-loss counselling, while disagreement was most common for recording practices and counselling on smoking cessation. In almost half (45%) of the health centres, the two professionals disagreed on whether joint agreements existed concerning the recording of a target level for blood pressure. Agreements on recording cardiovascular risk also split opinion, with only 17% of pairs reporting similarly that agreement had been made (Table III). In 42% of cases, the pair of senior executives agreed that the HT Guideline had changed the division of labour between physicians and nurses in their health centre.

Discussion

This is the first study to evaluate the adoption of a Current Care guideline in all Finnish health centres. The results of this study imply that the national Hypertension Guideline has had an effect on some clinical practices. According to senior executives in Finnish primary care, measurement practices and group counselling are most often implemented, while agreements on recording practices are less common.

Views on the adoption of recommendations were different between the two professional groups, and the consistency of views of senior executives in the same health centre was far from perfect. A similarity of views between senior executives is likely to reflect an organizational implementation of the guideline, which is shown to be an enabling factor [14–15].

The best agreement between senior executives was on group counselling, which concurs with a previous Finnish study [16]. The good uptake of measurement practices was perhaps supported by the precise definition of this in the HT guideline [17–18]. However, the recording practices — which were here used as a process measure of the

implementation — were sub-optimally carried out and there was a significant discrepancy in senior executives' views. The most problematic issue was recording the cardiovascular risk. This implies the overall difficulties in using risk assessments, which has also been highlighted in other studies [19–21]. For some reason, even educational interventions led to only small improvements in recording practices [20]. The proportion of senior nursing officers who were unaware of agreements made on recording practices was clearly higher than among head physicians. One possible explanation is that guideline education is organized separately for physicians and nurses, with little opportunity to discuss joint processes. It might also be common that updating knowledge and work processes depends merely on individual interest and thus may lead to variations in implementation. This finding also confirms the importance of structural changes that support implementation at the organizational level [22].

It is necessary to arrive at common agreements for all members in the multi-professional team, for example by using multiple methods [23]. Teamwork supports the follow-up of hypertensive patients and adequate record-keeping [15] and is a successful model of care in hypertension management [24].

This study has some limitations. First, since we included only those health centres where both the head physician and the senior nursing officer responded, the sample represents about half of Finnish health centres. Even in the primary data set, the response rate for head physicians was clearly lower than for senior nursing officers (57% vs 85%). Head physicians especially were busy and interview appointments proved exceptionally difficult to arrange. It is possible that the views of the non-respondents might be different. However, the characteristics of the excluded respondents and their health centres (n = 124) did not differ from those that participated in

terms of age, professional experience, working years in the HC, or in the size of the HC and in the way of organizing patient care. Therefore we think it is safe to generalize the findings for Finland.

Second, self-reported answers might overestimate adherence to guidelines [25], and thus the results may give an overly positive picture of implementation. Third, the answers describe only the perspective of senior medical staff, and so may not reflect the complete situation in HCs. As we did not record patient outcomes, the actual change in practitioners' performance remains unknown. Fourth, Finnish health centres have been forced constantly to change their working processes, for example, because of the shortage of physicians, and so it is difficult to know to what extent the reported changes are due to the HT Guideline.

In conclusion, simple guideline recommendations like blood pressure measurement practices and group counselling were better implemented than mutual agreements involving both professional groups. The latter represents an organizational approach and requires good leadership. Although there is a generally positive trend in the use of clinical guidelines among physicians [26], the successful implementation of new work processes still needs the approval and support of both physicians and nurses. More emphasis on multidisciplinary collaboration is needed, especially when there is evidence that guidelines can facilitate organizational change and improve inter-professional relations [27]. Obtaining a more detailed understanding of the role of teamwork in guideline implementation could be the focus of future research.

Acknowledgements

The study has been supported financially by the Academy of Finland, by funding the ECCE study group. The other members of the ECCE Study group are Maaret Castren, Riitta Johannala-Kemppainen, Pekka Jousilahti, Matti Klockars, Taina Mäntyranta, Marita Poskiparta, Risto Roine, Ilkka Tikkanen, Timo Tolska, Juha-Pekka Turunen and Liisa-Maria Voipio-Pulkki. The authors would like to thank Mark Phillips for revising the English language.

Conflict of interest: None.

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