RESEARCH LETTER

Family physicians’ perspectives on clinical guidelines, a survey from the Republic of Srpska, Bosnia and Herzegovina

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KEY MESSAGES
- Most physicians declare application of clinical practice guidelines.
- Substantial percentage of physicians remains sceptical, using CPGs only exceptionally.
- Further studies are needed to promote the use of CPG and the concept of EBM.

ABSTRACT
Background: Despite considerable efforts to promote and support clinical practice guidelines (CPGs) use, adherence has often been suboptimal universally.
Objectives: The aim of this study was to assess to which extent family physicians (FPs) in Republic of Srpska (RS), Bosnia and Herzegovina (BiH) accept or reject the concept and practice of CPGs and evidence-based medicine (EBM).
Methods: A cross-sectional survey was conducted among FPs from the RS, BiH in the period between January and March 2014. Recruitment of FPs was performed combining two different strategies, in-person recruitment at family medicine conferences and mailed invitations. The Questionnaire included 19 questions from the existing Healthcare Monitor Questionnaire, divided into four thematic blocks and 11 self-designed questions.
Results: Seventy-seven per cent of 131 interviewed physicians reported already using guidelines in the treatment of patients, while 22.9% of them are undecided or disagree. As the reason for rejecting guidelines, 13.0% of the physicians stated they did not support their content, 12.2% found that limited knowledge about guidelines prevented their application, and another 12.2% reported that the current guidelines were not practical enough. All groups would rather not use guidelines developed by a governmental institution.
Conclusion: Most physicians in the RS, BiH accept and declare application of CPG. However, a substantial percentage remains sceptical, using CPGs only as an exception, or rejecting them due to their content or impracticability.

ARTICLE HISTORY
Received 19 May 2015
Revised 5 March 2016
Accepted 6 March 2016

KEYWORDS
Evidence-based medicine; clinical practice guidelines; family medicine; primary care

Introduction
Over the last two decades, there has been increased interest in the gap between research findings and their implementation in clinical practice.[1] The simplest route for most family physicians (FPs) to implement evidence-based medicine is to use evidence-based clinical practice guidelines (CPG),[2] i.e. ‘systematically developed statements to assist physician and patient decisions about appropriate healthcare for specific circumstances’.[3]

To secure the resources for the greatest possible improvement to the physical and mental health of the nation, the Ministry of Health (MoH) of the Republic of Srpska, Bosnia and Herzegovina, in 2004 announced 20 clinical guidelines in the framework of the ‘Basic Health’ project. Four years later, MoH hired Bonex Engineering Consultancy Group, consulting and training company to implement a project of revision and improvement of the 22 existing CPGs on the most chronic disease for family physicians and preparation of new guidelines.
of 12 new ones. All clinical guidelines in printed and electronic form were distributed to all family physicians registered in the base of MoH.

However, no impact evaluation has been conducted there from, and the degree of acceptance of underlying EBM concept among family physicians in the RS remains unknown.

The aim of this study was to assess to which extent FPs in the Republic of Srpska accept or reject the concept and practice of CPG and EBM in their medical practice.

Methods

Study sample

A cross-sectional survey was conducted among FPs in the Republic of Srpska, Bosnia and Herzegovina, in the period between January and March 2014. The sample size for the population of 437 family physicians in Republic of Srpska, with the estimation error of 7.21% and confidence level of 95.0%, was calculated to be 130. One hundred and fifty FPs were randomly chosen from the national Registry of Republic of Srpska Family Medicine Association. Their recruitment was performed combining two different strategies, in-person recruitment at family medicine conferences and mailed invitations. One of the researchers phoned the respondent, scheduled the visit to his/her practice and carried out interview with the respondent personally, using the printed form of questionnaire. One hundred and thirty-one physicians (response rate was 88.0%) gave their consent to participate in the study. The study was approved by institutional ethical review committee (Faculty of Medicine, University of East Sarajevo, 326/2014).

Survey instruments

To assess to what extent FPs in the Republic of Srpska, Bosnia and Herzegovina accept or reject the concept of CPG and EBM in their daily practice, we used a questionnaire. The questionnaire included 19 questions from the existing Healthcare Monitor Questionnaire, divided into four thematic blocks and 11 self-designed questions.

The first part of the questionnaire referred to the demographic characteristics of the surveyed doctors. The second part of the questionnaire focused on four thematic blocks:

1. Best treatment options of the physician for the patients
2. Current utilization and application of guidelines
3. Meaning of evidence based medicine for physicians
4. Preference of important characteristics of guidelines

The interviewed physicians were asked to evaluate statements in these four thematic blocks on a five-point Likert scale (1 = completely agree; 5 = strongly disagree).

Statistical analysis

Statistical analysis of the data obtained included the first descriptive statistics, the number and frequency characteristics (%), minimum and maximum values, mean values and their standard deviation. Pearson’s chi-square test was used to determine whether there is a significant difference between the expected frequencies (categorical variables). The P values of less than 0.05 were considered statistically significant. Statistical analyses were carried out using SPSS 20 (SPSS Inc., Chicago, IL, USA).

Results

Descriptive characteristics of study population

The study included 131 FPs with an average age of 41.7 ± 9.4 years, and 74.0% were female. (51.1%) of the physicians were 39 years of age or younger, while 64 (48.9%) belonged to the age group above 40. The study population consisted of 30.5% doctors of medicine, 16.0% of residents in family medicine, 26.7% certified family physicians and 26.7% of other specialists.

Attitudes of FPs on CPG

Most physicians (67.2%) stated that the patients are best treated ‘in balance of scientific recommendations, individual needs and current possibilities.’ Sixty-five per cent of the study population agreed with the statement that patients are best treated using the resources that are within guidelines. A smaller percentage (20.6%) of family physicians found that the patients are best treated without guidelines and with the knowledge of individual needs and patient’s possibilities (Figure 1). Seventy-seven per cent of the physicians felt that they were already using the guidelines in the care of their patients. As the reason for rejecting guidelines, 13.0% stated that they did not support guidelines content, 12.2% found that limited knowledge about guidelines prevented their application and
12.2% said that the current guidelines were not practical enough (Figure 1).

**Attitudes of FPs on and EBM**

For most physicians (81.7%), evidence based medicine represents a combination of individual experience and the best available evidence from systematic research. Fifty-seven percent of the physicians found that the EMB is exclusively oriented toward scientific studies. A total of 18.3% of the physicians agreed with the statement that EBM represents medicine that disregards individual experience, whereas 28.2% thought that EBM treats patients with the same diagnosis in exactly the same way. Seventy-three per cent agreed to use guidelines that were evidence based, developed by experts 63.4% and developed by medical societies 51.9% (Figure 1).

**Influence of physician characteristics on the response pattern**

Statistically, a significant influence of gender on the response pattern was found in only one subdivision,
Table 1. Influence of physician’s characteristics on the response pattern.

| Statement                                                                 | Variable | Agree | Disagree | Total | \( \chi^2 \) | \( P \) |
|---------------------------------------------------------------------------|----------|-------|----------|-------|-------------|-------|
| In the process of care for my patient I do not use guidelines, because they | Years of experience | 1–5 years | 3 | 7.1 | 39 | 92.9 | 42 | 7.052 | 0.015 |
| are not practical enough                                                   | 6–15 years | 8 | 17.8 | 37 | 82.2 | 45 |       |       |       |
| 15–40 years                                                               | 5 | 11.6 | 39 | 88.4 | 44 |       |       |       |       |
| Total                                                                     | 16 | 12.2 | 115 | 87.8 | 131 |       |       |       |       |
| In the process of care for my patient I use guidelines.                   | Years of experience | 1–5 years | 26 | 61.9 | 16 | 38.1 | 42 | 14.319 | 0.006 |
| the patient on the basis of patient’s needs, without guidelines           | 6–15 years | 38 | 84.4 | 7 | 15.6 | 45 |       |       |       |
| 15–40 years                                                               | 37 | 84.1 | 7 | 15.9 | 44 |       |       |       |       |
| Total                                                                     | 101 | 77 | 30 | 23 | 131 |       |       |       |       |
| The physician can best treat the patient on the basis of guidelines        | Education | Doctor of medicine\(^b\) | 6 | 15 | 34 | 85 | 40 |       |       | 14.091 | 0.029 |
| disagrees with their content                                              | Resident | 7 | 33.3 | 14 | 66.7 | 21 |       |       |       |       |
| Certified family physician\(^c\)                                          | Specialist | 7 | 20 | 28 | 80 | 35 |       |       |       |       |
| Total                                                                     | 27 | 20.6 | 104 | 79.4 | 131 |       |       |       |       |
| Evidence based medicine disregards individual experience                   | Gender | Male | 1 | 2.9 | 33 | 97.1 | 34 |       |       | 12.022 | 0.009 |
| Evidence based medicine is the best combination of experience and science  | Female | 23 | 23.7 | 74 | 76.3 | 97 |       |       |       |       |
| I would work with guidelines that were developed by governmental          | Total | 24 | 15.3 | 107 | 81.7 | 131 |       |       |       |       |
| I would work with guidelines that were developed by physician              | Education | Doctor of medicine\(^b\) | 5 | 12.5 | 35 | 87.5 | 40 |       |       | 8.032 | 0.014 |
| I would work with guidelines that were developed by governmental          | Resident | 0 | 0 | 21 | 100 | 21 |       |       |       |       |
| I would work with guidelines that were developed by governmental          | Certified family physician\(^c\) | 12 | 33.3 | 23 | 66.7 | 35 |       |       |       |       |
| I would work with guidelines that were developed by physician              | Specialist | 7 | 20 | 28 | 80 | 35 |       |       |       |       |
| I would work with guidelines that were developed by physician              | Total | 24 | 15.3 | 107 | 81.7 | 131 |       |       |       |       |
| Age of practice                                                            | Age, years | 1–5 years | 48 | 84.2 | 9 | 15.8 | 57 |       |       | 0.452 | 0.032 |
| 6–15 years                                                                | 49 | 86 | 8 | 14 | 57 |       |       |       |       |
| 15–30 years                                                               | 10 | 58.3 | 7 | 41.7 | 17 |       |       |       |       |
| Total                                                                     | 107 | 81.7 | 24 | 18.3 | 131 |       |       |       |       |
| Education                                                                  | Age of practice | 26–39 | 27 | 40.3 | 40 | 59.7 | 67 | 9.965 | 0.002 |
| Education                                                                  | 40–65 | 12 | 18.8 | 52 | 81.2 | 64 |       |       |       |
| Education                                                                  | Total | 39 | 29.7 | 92 | 70.2 | 131 |       |       |       |       |
| I would work with guidelines that were developed by governmental          | Education | Doctor of medicine\(^b\) | 17 | 6.8 | 23 | 93.2 | 40 |       |       | 3.076 | 0.029 |
| I would work with guidelines that were developed by governmental          | Resident | 6 | 1.26 | 15 | 98.7 | 21 |       |       |       |       |
| I would work with guidelines that were developed by governmental          | Certified family physician\(^c\) | 8 | 2.8 | 27 | 97.2 | 35 |       |       |       |       |
| I would work with guidelines that were developed by physician              | Specialist | 9 | 3.15 | 26 | 96.9 | 35 |       |       |       |       |
| I would work with guidelines that were developed by physician              | Total | 40 | 30.5 | 91 | 69.5 | 131 |       |       |       |       |
| Years of experience                                                        | Age of practice | 1–5 years | 18 | 10.3 | 39 | 89.7 | 57 | 9.878 | 0.004 |
| 6–15 years                                                                | 10 | 5.7 | 47 | 94.3 | 57 |       |       |       |       |
| 15–40 years                                                               | 11 | 1.87 | 6 | 98.1 | 17 |       |       |       |       |
| Total                                                                     | 39 | 29.7 | 92 | 70.2 | 131 |       |       |       |       |
| Age groups, years                                                          | Age groups, years | 26–39 | 42 | 28.1 | 25 | 71.9 | 67 |       |       | 3.974 | 0.041 |
| 40–65                                                                     | 26 | 16.6 | 38 | 83.4 | 64 |       |       |       |       |

\(^{a}\)Only the statistically significant results are presented.

\(^{b}\)Doctor of medicine—category of physicians who work as family physicians but do not have any formal training in family medicine.

\(^{c}\)Certified family physicians—category of physicians with completed residency programme in family medicine.
where female physicians agreed more with the statement that evidence based medicine disregards individual experience in relation to their male colleagues \((P < 0.009)\). The physicians with less experience (one to five years) significantly more often would accept and use the guidelines that were developed by a governmental institution \((P < 0.004)\). Physicians who have been working at their current posts for a period longer than 15 years tend to agree less with the statement that evidence medicine is the best combination of experience and science \((58.3\%)\). Unlike other groups of physicians, residents were significantly certain that every physician can best treat the patient based on patient’s needs, without guidelines \((P < 0.029)\). Although only 18.3% of all physicians agreed with the statement that evidence based medicine disregards individual expertise, certified family practitioners were in agreement more so than the others \((33.3\%, P < 0.014)\). Physicians with more than six years of experience agreed in higher percentages on the current application of guidelines than the physicians with less experience \((84.4\% \text{ versus } 61.9\%, P < 0.006)\) (Table 1).

**Discussion**

**Main findings**

Most family physicians in Bosnia and Herzegovina accept clinical guidelines, especially guidelines developed by physicians’ network, but a substantial percentage of family physicians remains sceptical, using CPGs only as an exception, or rejecting them due to their content, impracticability or, simply, lack of knowledge.

**Strengths and limitations of the study**

This study provides insight into the utilization of clinical practice guidelines and the knowledge of evidence based medicine by family physicians in Republic of Srpska, Bosnia and Herzegovina. However, this was a cross-sectional study, where no primary and secondary outcomes, such as physicians’ adherence to local guidelines and treatment outcomes, were determined beforehand. Second, more comprehensive and longitudinal data are needed to provide a better assessment of physician’s attitudes, knowledge and behaviour.

**Comparison with international studies**

The gap between a theoretical agreement on the concept of EBM and practical application of evidence-based guidelines was analysed in different studies.[4–8] In an international perspective, most of FPs and other healthcare professionals are very satisfied with guidelines.[4,5] It was shown that German office based physicians have positive attitude towards evidence-based medicine.[5] A similar attitude among general practitioners was also shown in Denmark, the UK, and Australia.[6–8]

If we look into the factors influencing the implementation of clinical guidelines, it can be seen that guideline adherence has not necessarily corresponded with the revealed general attitudes towards guidelines. Workflow can shift clinical decisions toward more evidence-based care and lower prescription costs.[9] Older physicians, with longer experience in practice, used guidelines more and agreed less with the usefulness of guidelines that were developed by governmental institution compared to younger colleagues, who are exposed to continuous teaching a holistic approach to the patients and practice medicine focused on the patient, not on guidelines. For many physicians, research and individual expertise are still contradicting methods, even though both elements are fundamental to the EMB definition.[10]

**Practice implications**

This study suggests that increased knowledge among Bosnian FPs about the structure of CPGs, which involve FPs in the development of guidelines, might enhance the utilization and application of CPGs in the future.

**Conclusion**

Most physicians in the RS accept clinical practice guidelines. However, a substantial percentage remains sceptical, declaring use of CPGs only as an exception or rejecting them due to their content or impracticability. Further studies about development, updating and implementation of clinical guidelines and factors that might potentially increase the utilization of clinical guidelines and promote the concept of EBM are needed.

**Declaration of interest**

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

The authors confirm that research was not supported financially from any institution in the form of grants, equipment, drugs or all of these.

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