

Attitudes of general practitioners from Sofia towards evidence-based medicine: A questionnaire survey

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Abstract

Aim: To examine the attitudes and awareness of general practitioners towards evidence-based medicine and determine their needs for additional training.

Methods: A questionnaire survey was carried out in 2012 among 400 randomly selected general practitioners from Sofia city, Bulgaria, representing 45% of their total number.

Results: Respondents demonstrated predominantly positive attitudes towards evidence-based medicine. However, their awareness of relevant databases and understanding of technical terms used in evidence-based medicine stand at low level.

Conclusion: Although a positive attitude towards evidence-based medicine was expressed from most general practitioners, the respondents perceived it in two different aspects-as a theory and as a practice. While the theoretical aspect is recognized and positively evaluated (even as a compliance of their own practice with evidence), the application of evidence-based medicine in everyday practice seems irrelevant to general practitioners due to limited understanding and training.

Keywords: attitudes, Bulgaria, evidence-based medicine, general practitioners.

Introduction

Evidence-based medicine is a relatively new concept that penetrates increasingly practical medicine (1,2). A number of publications promote the application of evidence based medicine in general practice (3-7). Generally these publications emphasize that evidence based medicine receives broad acceptance and approval, although this positive attitude is not always related to its incorporation in everyday clinical practice (4-14). On one hand, practicing evidence based medicine would help general practitioners to find routinely up-to-date, valid and reliable information (15) and to improve the quality of care (16). On the other hand, a number of considerations regarding the applicability of evidence based medicine in a general practice settings are expressed, as lack of time, personal and organizational inertia, local context of general practices, patient values and preferences, as well as reliability and credibility of evidence themselves (17-20). Along with all of this, there is emphasis on the need for training of general practitioners in skills for formulating clinical questions, searching databases and critical appraisal of found information (21-23).

Although there exist two relevant official documents in Bulgaria - the medical standard for general practice and guidelines for good general practice - that require from general practitioners to apply elements of evidence based medicine in their practices, in fact there is no information about the use of evidence based medicine in general practice settings. Nothing is known about how general practitioners perceive evidence based medicine, what is the extent of their ability to find and interpret evidence, which are the main barriers to transition from opinion based towards evidence-based practice, as well as what kind of additional support is needed for incorporation of evidence based medicine in daily general practice. This study is based on the study of McColl, conducted in 1998 among UK general practitioners (6).

Methods

The study population consists of 400 general practitioners from individual and group practices within Sofia city, Bulgaria. Surveyed general practitioners represent 45% of all 890 GPs in Sofia

city with 2.5% standard error and 95% confidence interval (40.1% ÷ 49.9%). The selection was done by generating random numbers with Microsoft Excel from the database of Sofia Regional Health Insurance Fund.

The study used a cross-sectional design. Primary data were collected by questionnaire survey between June and November 2012. Refusals to participate in the study were within 10%.

Questionnaire from McColl et al. was used after probation in a pilot study resulting in its adaptation in compliance with local conditions. The visual analogue scale of McColl's questionnaire was modified in Likert like items. Some other specific questions were added.

Main outcome measures of analysis were respondents' attitude toward evidence based medicine, their ability to access and interpret evidence, their perception about barriers against practicing evidence based medicine, their perception about the best methods of moving from opinion based towards evidence based medicine, as well as personal and general practices characteristics, and status of general practitioners in respect to their current training in evidence based medicine.

Data were analyzed by use of the statistical package SPSS version 13.0 and statistical software MedCalc version 12.7.0. Descriptive analysis and tests to detect dependencies between descriptive data were carried out (Pearson chi-square, Cramer's V and Phi coefficients, as well as Kendal's tau). P-levels of 0.05 were considered statistically significant.

Results

Personal characteristics and practice settings

Among the surveyed general practitioners, women constitute 67% and men 33%. The largest proportion of GPs (47.8%) serves population with size between 1201 and 2400 people. They are followed by doctors serving population between 801 to 1200 people- 5.3%, followed by general practitioners with population size more than 2400 people-12.5% and those with population size up to 800 people-4.5%. In respect to the years of clinical practice, the highest is the proportion of general practitioners with over 21 years of practice-50.3%. They are followed by doctors with clinical practice from 16 to 20 years-

31%, followed by 14% of general practitioners with practice from 11 to 15 years and 3.8% doctors with practice from 6 to 10 years.

The majority of general practitioners use foreign language to a degree sufficient for the understanding of scientific literature-65.5%, while 34.3% do not use any foreign language. Most of general practitioners-38.8% report that the foreign language used by them is Russian, while 34.5% of general practitioners use English.

Attitude towards EBM

The next set of questions is designed to determine what is the attitude of general practitioners towards evidence-based medicine, and also how respondents perceive its applicability to the specific settings of

general practice. The covering letter to the questionnaire presents the definition of “evidence based medicine” (24): “*Evidence based medicine is the use of best current evidence in making decision for the care needed by an individual patient, and the practice of evidence based medicine integrates individual clinical expertise with the best available external evidence from scientific researches.*”

Table 1 presents the personal attitude of general practitioners towards the current promotion of evidence-based medicine and their perception of the attitude of their fellow general practitioners. It is noteworthy that the majority of the responses tended to give positive evaluation. Relatively low was the proportion of those general practitioners who explicitly stated their negative attitude towards evidence-based medicine.

Table 1. General practitioners attitude towards evidence based medicine

	How would you describe your attitude towards the current promotion of EBM?		How would you describe the attitude of most of yours GP colleagues towards EBM?	
	N	%	N	%
Very negative	7	1.8%	7	1.8%
Rather negative	31	7.8%	27	6.8%
Neither positive, nor negative	93	23.3%	121	30.3%
Rather positive	122	30.5%	157	39.3%
Very positive	147	36.8%	88	22%
TOTAL	400	100	400	100

The relationship between the attitude of general practitioners towards current promotion of evidence based medicine and their opinion about the attitude of their colleagues towards evidence based medicine indicated positive association between the two variables, which was statistically significant-Kendall's tau-b=0.689, $P < 0.001$.

At the same time, significant proportion of general practitioners evaluated the usefulness of research findings in everyday medical practice as “extremely useful” and “useful” - respectively 37.3% and 37%. The indifferent group (“neither useful nor useless”) occupied 15.3%. Doctors that defined research as “useless” and “totally useless” were respectively 1.8% and 8.8%. At the same time, general practitioners

with relatively high evaluation of usefulness of research findings demonstrated relatively positive attitude towards evidence based medicine-Kendall's tau-b=0.747, $P < 0.001$.

Table 2 compares the attitude of general practitioners towards evidence based medicine in the context of improving patient care; scientific basis of primary care; as well as their overloaded working time schedule. Although the majority of general practitioners claimed that evidence based medicine improves patient care, simultaneously a significant proportion of them agreed that the use of evidence based medicine in general practice is of limited value and that the adoption of evidence based medicine is another demand on the already overloaded general practitioners.

Table 2. General practitioners attitude towards some aspects of evidence based practice

	Practicing EBM improves patient care?		EBM is of limited value in general practice because much of primary care lacks a scientific base?		The adoption of EBM, however worthwhile as an ideal, places another demand on already overloaded GPs?	
	N	%	N	%	N	%
Strongly disagree	25	6.3%	55	13.8%	41	10.3%
Rather disagree	21	5.3%	100	25%	83	20.8%
Neither agree, nor disagree	65	16.3%	95	23.8%	104	26%
Rather agree	91	22.8%	92	23%	101	25.3%
Strongly agree	198	49.5%	54	13.5%	71	17.8%
Missing	-	-	4	1%	-	-
TOTAL	400	100%	400	100%	400	100%

On the other hand, the general practitioners from Sofia demonstrated good self - esteem in relation to the compliance of their own practice with evidence (49%). Of these, 61% assessed their own practice as evidence based.

Awareness and perceived usefulness of relevant information sources

The general practitioners were presented publications in English available via the Internet (Table 3). Among the listed items there were included the most popular databases, publishing systematic reviews and summaries. The general practitioners were asked to indicate those publications that: they are unaware of; they are aware of, but do not use; they read; and they use in clinical decision making. There was a very small proportion of doctors who indicated that they use foreign publications and databases, for example only 4.3% of physicians were aware of the Cochrane Database of Systematic Reviews. None of the respondents used foreign databases for clinical decision making. However, impressive was the high proportion of respondents not willing to answer this question. Simultaneously, medical journals in Bulgarian were presented to general practitioners and the conclusion is that Sofia general practitioners are aware about, read and use in making

clinical decisions mainly Bulgarian journals. In this respect, respondents demonstrated a rate between 0.8% and 7.3% for using local scientific journals for clinical decision making, and between 2% and 34.3% for only reading them. However, the most popular scientific journals among Sofia general practitioners are those specialized in general medicine.

Access to the relevant databases and the internet

While 79.8% of general practitioners had access to Medline and other bibliographic databases at their workplace, 88.4% of them reported having access to the worldwide web. Only 2.5% of general practitioners reported ever attending a course on searching strategies, and 3.5% had been trained in critical appraisal. Special courses on practicing evidence based medicine were attended by 4.5% of physicians. However, 59.5% of respondents would like to attend courses on how to practice evidence based medicine.

Understanding of technical terms used in EBM

The next question was aimed at revealing the situation within general practitioners in regards of understanding some basic terms used in publications related to evidence based medicine (Table 4).

Table 3. General practitioners awareness of evidence based medicine publications

Publication	Unaware		Aware but not used		Read		Used to help in clinical decision making		Without response	
	N	%	N	%	N	%	N	%	N	%
Bandolier	114	28,5%	19	4,8%	0	-	0	-	267	66,8%
Evidence Based Medicine	105	26,3%	33	8,3%	2	0,5%	0	-	260	65%
Effective Health Care Bulletins	113	28,3%	123	5,8%	0	-	0	-	264	66%
Cochrane Database of Systematic Reviews	116	29%	17	4,3%	0	-	0	-	267	66,8%
Database of Abstracts of Reviews of Effectiveness (DARE)	118	29,5%	12	3%	0	-	0	-	270	67,5%
Evidence Based Purchasing	104	26%	13	3,3%	4	1%	0	-	279	69,8%

Respondents received a list with specific terms and they were required to indicate how they define their own understanding of each term in certain levels of understanding from “it would not be helpful to me to understand it” to “yes, I understand it and could explain it to others.” Again, we found a significant proportion of non-responding general practitioners-from 14.8% to 26.8% for individual terms. Those doctors who believed that it would not be helpful to them to understand the terms were from 8% to 17.5%; doctors who did not understand the terms, but would like to understand them were from 6.8% to 30%; those having only some understanding were from 17.8% to 33.8%; while respondents who believed that they understand the terms to the extent they can explain them to others were from 7.5% to 37.8%.

Perceptions of main barriers against practicing evidence based medicine in general practice settings As the main obstacle to the implementation of evidence-based medicine, 80% of general practitioners highlighted the lack of time. Second was placed the insufficient foreign language proficiency -44%, followed by the lack of knowledge in the field of evidence based medicine-43.5%. Lack of practical skills for searching databases was indicated by 28.3% of respondents, while 12.8% identified the lack of appropriate technical conditions as an

obstacle. Only 2% of general practitioners perceived the lack of funds as a barrier for preventing them from practicing evidence based medicine. Finally, a very small percentage of respondents-0.3% reckoned the boredom of the work of general practitioner as an obstacle.

Perceptions of best methods of moving from opinion based towards evidence based medicine According to the general practitioners from Sofia, the best method of moving from opinion based towards evidence based medicine was by seeking and applying evidence based summaries (238 GPs), which give the clinical basis, followed by the method of learning the skills of evidence based medicine to identify and appraise the primary literature and systematic reviews (208 GPs) and the method of using evidence based practice guidelines or protocols developed by colleagues for use by other colleagues (199 GPs).

Discussion

This study shows that evidence based medicine has no particular application in the general practice in Bulgaria in the aspect of the whole process from formulating a structured clinical question to the application of found evidence to the individual patient. The results of this study repeat largely the results of similar studies in other countries (5-7,10,12,25,26).

Table 4. General practitioners awareness of technical terms used in evidence based medicine

	It would not be helpful to me to understand		Don't understand but would like to		Some understanding		Yes, understand and could explain to others		Without response	
	N	%	N	%	N	%	N	%	N	%
Relative risk	42	10.3%	31	7.8%	119	29.8%	150	37.5%	59	14.8%
Absolute risk	34	8.5%	30	7.5%	116	29%	151	37.8%	69	17.3%
Systematic review	32	8%	39	9.8%	117	29.3%	135	33.8%	77	19.3%
Odds ratio	58	14.5%	120	30%	71	17.8%	44	11%	107	26.8%
Meta analysis	35	8.8%	95	23.8%	127	31.8%	67	16.8%	76	19%
Clinical effectiveness	37	9.3%	27	6.8%	135	33.8%	122	30.5%	79	19.8%
Number needed to treat	65	16.3%	76	19%	97	24.3%	75	18.8%	87	21.8%
Confidence interval	70	17.5%	113	28.3%	95	23.8%	30	7.5%	92	23%
Heterogeneity	57	14.3%	78	19.5%	117	29.3%	46	11.5%	102	25.5%
Publication bias	67	16.8%	77	19.3%	91	22.8%	61	15.3%	104	26%

The majority of general practitioners has a favorable attitude towards evidence based medicine and agree that its practice improves patient care. At the same time, respondents demonstrated poor knowledge of databases, journals and publications of systematic reviews relevant to evidence based medicine, as well as little inclination to use the sources of evidence in their daily activities. Overall, respondents demonstrated a low level of awareness of working with databases. The same as identified by other studies are the perceived barriers against practicing evidence based medicine - lack of time, lack of knowledge and skills, but Bulgarian background express one more important barrier - insufficient foreign language proficiency.

General practitioners from Sofia perceive evidence based medicine in two different aspects - as a theory and practice. While the theoretical aspect is recognized and highly appreciated (even as compliance of their own practice with evidence), the practical aspect remains unappreciated and even undesirable since general practitioners have no

understanding of it, because the great part of them have never been trained in applying evidence based medicine into practice.

From a positive point of view, the need for training declared by general practitioners, allows to state that evidence based medicine has its important place in general practice. The introduction of evidence based medicine in general practice, however, requires a systematic approach aimed at overcoming accumulated organizational and personal inertia. In the more practical aspect of training, this implies a shift from theoretical courses to training in finding and interpreting evidence.

McColl (6) noted that ability of critical appraisal of scientific literature is one of the most important aspects of medical education. In this context, this study is expected to help Bulgarian medical universities in defining educational needs of practicing physicians, as well as encouraging further activities for promoting evidence based medicine within professional organizations of general practitioners and national health authorities.

Conflicts of interest: None declared.

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