ORIGINAL ARTICLE

Primary Care Doctors' Perceptions Towards Evidence-Based Medicine in Melaka State: A Questionnaire Study

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Summary

A cross sectional study using a self-administered questionnaire to determine the perceptions of primary care doctors towards evidence-based medicine (EBM) was conducted in Melaka state. About 78% of the primary care doctors were aware of EBM and agreed it could improve patient care. Only 6.7% of them had ever conducted a Medline literature search. They had a low level of awareness of review publications and databases relevant to EBM; only about 33% of them were aware of the Cochrane Database of Systemic Reviews. Over half of the respondents had at least some understanding of the technical terms used in EBM. Ninety percent of the respondents had Internet access and the majority of them used it at home. The main barriers to practicing EBM were lack of personal time and lack of Internet access in the primary care clinics.

Key Words: Evidence-based medicine, Primary care, Perception

Introduction

Sackett et al[1] defined evidence-based medicine (EBM) as the "conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients." Evidence-based practice requires the integration of the physician's clinical expertise and judgment with the best available relevant external evidence. In the public sector of the Malaysian health care system, primary care doctors (as well as nurses and medical assistants) are patients' first point of contact with medical services, providing both continuous and comprehensive health care. Literature from the developed world suggests that incorporating EBM into day-to-day primary care practice is feasible and achievable[2-4]. In Malaysia, however, the perception of primary care doctors towards EBM is unknown. Hence we conducted this study to determine the level of the doctors' self-reported EBM skills, their perceived barriers to practice and incorporation of EBM in their everyday practice.

Materials and Methods

Subjects and setting

This cross-sectional study was conducted in June 2003 using a self-administered questionnaire. The subjects were all 46 medical officers working in 29 Health Clinics and 3 Outpatient Departments of district hospitals in the state of Melaka. These 32 healthcare facilities provide primary medical care to both adults and children in the public sector of Melaka's health care system. Private general practitioners were not included in this survey.

This article was accepted: 31 August 2004

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Questionnaire

The questionnaire was adapted from McColl et al[5]. Six questions assessed the doctors' attitude regarding EBM (using a 0-10 Likert scale), awareness and usage of EBM resources (e.g. abstracting journals, MEDLINE, and Cochrane Database of Systematic Reviews), understanding of EBM terms, and perceived barriers to practising EBM.

Statistical analysis

SPSS version 11 was used for data analysis. Confidence intervals for percentages of awareness and usage of information sources were calculated using "Confidence Interval Analysis"[6]. For attitudinal scale (minimum 0, maximum 10), median and quartiles (25th-75th percentiles) were presented.

Results

Forty out of 46 doctors returned the completed survey forms after two reminders (response rate 87%). Thirty-five doctors (87.5%) were female, and 33 of them Malay (82.5%). The mean age was 32.3 years (range 28-43 years, SD=3.7 years). The mean duration of working experience at primary care level was 3.3 years (range 4 months to 12 years, SD=2.7 years).

The reported level of awareness of EBM and usage of EBM resources were rather high except for Cochrane Database of Systematic Review (Table I). On the whole, the attitudes of these doctors towards EBM positive (Table II).

When faced with a difficult medical problem, they would consult a Family Medicine Specialist, Clinical Practice Guidelines (CPG) or textbooks, in that order of preference. Only 6.7% of them reported conducting a Medline search to solve the clinical problem.

The respondents had variable levels of understanding for selected EBM terms, the proportion having at least some understanding varied from 32.5% for confidence interval to 87.5% for relative risk (Table III, including both "some understanding" and "could explain to others").

The three main perceived barriers for practising EBM were lack of time, internet access, and journals (together reported by 72.5% of doctors). Although 90% of them had prior experience of using internet to search for medical information and 83% accessed the internet at home, none of them had internet access in the workplace.

Table I: Reported level of EBM awareness and information use

Item	% (95%CI)
Heard of evidence-based medicine	77.5 (61.6-89.2)
Interested to know more about evidence-based medicine	95.0 (83.1-99.4)
Perceived level of evidence-based practice	62.1 (56.5-67.7)
Usage of clinical practice guidelines	73.8 (68.9-78.6)
Ever accessed internet for medical information	90.0 (76.3-97.2)
Accessed MEDLINE in the past one year	62.5 (45.8-77.3)
Aware of EBM journal (from BMJ Publishing)	85.0 (70.2-94.3)
Aware of Cochrane Database of Systematic Reviews	32.5 (18.6-49.1)

Table II: Attitudes towards evidence-based medicine

Item	Median score (quartile)
How would you describe your attitude towards the current promotion of evidence-based medicine?*	7.0 (5.5-8.0)
How would you describe the attitude of most of your primary care colleagues towards evidence-based medicine?*	5.0 (4.1-6.5)
How useful are research findings in your day-to-day management of patients?**	7.5 (6.5-8.5)
Practising evidence-based medicine improves patient care.***	7.5 (6.5-8.9)
Evidence-based medicine is of limited value in general practice because much of primary care management lacks a scientific base.***	5.0 (1.6-6.4)
The adoption of EBM, however worthwhile as an ideal, places another demand on already overloaded primary care doctors.***	5.5 (4.3-7.5)

*0 = "extremely unwelcoming", 10 = "extremely welcoming"
**0 = "totally useless", 10 = "extremely useful"
***0 = "strongly disagree", 10 = "strongly agree"

Table III: Understanding of EBM terms

Term	Don't understand	Some understanding	Could explain to others
Relative risk	5 (12.5)	24 (60.0)	11 (27.5)
Absolute risk	7 (17.5)	20 (50.0)	13 (32.5)
Systematic review	11 (27.5)	19 (47.5)	10 (25.0)
Publication bias	15 (37.5)	19 (47.5)	6 (15.0)
Number needed to treat	21 (52.5)	16 (40.0)	3 (7.5)
Meta-analysis	24 (60.0)	11 (27.5)	5 (12.5)
Odds ratio	26 (66.0)	12 (30.0)	2 (5.0)
Confidence interval	27 (67.5)	9 (22.5)	4 (10.0)

EBM - Evidence Based Medicine

Discussion

The participating doctors in this survey were generally positive towards evidence-based medicine. Most of them reported having some understanding of the EBM terms. However, they relied primarily on senior colleagues (e.g. Family Medicine Specialists), CPGs and textbooks to solve difficult clinical problems rather than accessing electronic databases or medical journals. These survey results were broadly similar to previous surveys conducted elsewhere;[7-11]. As a whole they showed that primary care doctors are not ready to practice EBM as proposed by Sackett et al[1]. Several issues will need to be addressed if this is to take place: foremost among them, the accessibility to information sources, the ability to efficiently track down published evidence, and skills to appraise the validity and strength of evidence. While such information handling skills and critical appraisal skills have been introduced in the Malaysian undergraduate medical curriculum to a limited extent,[12,13] we are uncertain as to their emphasis in the vocational training for family medicine trainees and continuing professional development for practising family physicians.

There were several limitations in our study. While we have achieved a reasonable response rate (87%), we cannot discount the possibility of response bias, in particular the lack of accuracy in the respondents' ability to self-evaluate knowledge and skills in EBM. In a validation study by Young et al,[14] general practitioners' self ratings of their understanding of EBM terms turned out to be overestimated when evaluated objectively. Furthermore, qualitative studies[15-18] revealed that many primary care doctors doubt the applicability of EBM in the real world of clinical practice where patients are likely to have multiple biomedical and psychosocial problems, as well as the difficulty of applying trial results to individual patients. The reality of the busy clinical practise means that most primary care doctors will not be able to perform extensive information searching nor to develop critical appraisal skill sufficient to critique original research.

Conclusion

In conclusion, the majority of the primary care doctors in the public primary care clinics in Melaka were generally positive towards evidence-based medicine but the barriers to practicing it included lack of time and internet access. Regularly updated guidelines, review articles or pre-appraised evidence (e.g. Clinical Evidence) are probably more likely to fill the immediate needs for information in the primary care clinics.

Acknowledgements

The authors wish to thank the primary care doctors in Melaka for participating in this study, and also to the Director of Health, Melaka, for permission to conduct this study.

* This paper was presented at the 7th Malaysian Family Medicine Specialist Conference 2003 in Shah Alam.

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