

Evidence Based Care: from theory to practice: a dual approach

Research within the framework of the programme “social cohesion” of the Belgian Federal Public Planning Service Science Policy

Summary of Research

Introduction

Evidence Based Medicine (EBM) is an important development in medical science. EBM is ‘the conscientious, explicit and judicious use of current evidence in making decisions about the care of individual patients’. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. In a growing number of countries and regions, this ‘evidence’ has been translated into ‘clinical guidelines’ and ‘clinical practice recommendations which make a major contribution to quality assurance, as for example in general practice. However, with the implementation of these guidelines one is confronted with three problems:

1. Conceptual problems: the conclusions from research cannot be automatically transposed to the situation of the patient in general practice.
2. Technical problems: the results of scientific research, e.g. expressed as a NNT (number needed to treat) need to be translated to the situation in clinical practice (when is a NNT acceptable or when is it not acceptable?).
3. Implementation: knowledge does not automatically change behaviour. Resistance to scientific evidence exists both in professionals and the general public. Many people consider the scientific message that antibiotics are not effective in treating acute bronchitis as ‘bad news’.

On the one hand, there is a growing body of EBM-information, such as clinical practice guidelines, yet on the other hand there is growing evidence that the implementation of these guidelines is not that simple and insufficient. Therefore, there is a need for an integrated implementation strategy with a double focus on both professionals and the general population.

Antibiotics for acute sore throat

The use of antibiotics in Belgium is far from 'evidence-based'; the consumption is one of the highest in Western Europe and there is a growing problem of resistant germs.

Recently, the Belgian Commission for the Co-ordination of Antibiotic Policy published and disseminated guidelines meant to stimulate a more rational use of antibiotics. The government campaign 'save the antibiotics' has informed the general public as well as health professionals about the issue. Considering the importance of the subject and the fact that scientifically proven EBM guidelines already exist for Belgian physicians, we focused in this research on the use of antibiotics for acute sore throat. Research shows that in 55% of patients presenting to their physician with acute sore throat doctors still prescribe antibiotics, in spite of EBM messages on the topic. In most cases broad spectrum antibiotics are prescribed, even though penicillin is still effective for the treatment of streptococcal pharyngitis (Wetenschappelijk Instituut Volksgezondheid, 2000).

Objectives

The most important objective of this research is to obtain an overview of the problems related to the implementation of EBM in general practice, and more specifically the implementation of the multidisciplinary guideline for 'acute sore throat'. As a result a scenario is developed aiming to bridge the gap between 'evidence-based medicine' and its implementation in everyday practice. In this way, the project could provide policy advice for strategic planning of scenarios considering the further development of local guidelines and their implementation in the Belgian context.

Methods

The following methods are used to achieve these objectives:

1. review of the literature, analysis of existing scenarios for implementation
2. qualitative research: interviews with general practitioners
3. quantitative descriptive research of consultations for acute sore throat
4. intervention in local peer review groups (LOK) as a field test for the implementation of the guideline on acute sore throat

1. Literature review

Implementation strategies

In the literature, authors agree that publishing guidelines does not automatically lead to implementing them in clinical practice. The LOK groups, local peers review meetings, could be a possible channel for implementation. Further research into this strategy is necessary. Outreach visits ('academic detailing') are effective. In the Flemish context, the project with independent physician visitors of 'Projekt Farmaka' in the region of Ghent and Bruges is an example.

Different authors who have evaluated the effect of implementation strategies conclude that there is no single effective strategy. Different interventions are effective under certain conditions, but none of these are effective under all conditions. 'Multifaceted interventions'- a combination of selected implementation strategies with the same objective- need to be adjusted each time according to the expected change of behaviour. This change of behaviour needs to be based on evidence and consensus, well described in all aspects and attractive, simple and integrated in all routines. These strategies should be tested on a small scale and if necessary adjusted to local needs (Effective Health Care 1999; Grol and Wensing 2001).

Doctor-patient related factors influencing prescription behaviour of antibiotics as an application of EBM

From the literature it is clear that patients mostly expect reassurance, information and pain relief. Expectations for an antibiotic are higher when the patient feels really ill or if he received a prescription in the past for a similar condition. Patients do not clarify their expectations and the doctor often misjudges the expectations of the patient. However, the doctor's perception of the patient's expectations is the most important factor in predicting prescription of antibiotics. **The satisfaction of the patient is related to the attention that the doctor gives the patient and not to whether or not a patient receives a prescription.**

The following interventions are useful in the consultation to improve implementation of EBM guidelines (to reduce prescriptions for antibiotics):

- Exploring the patient's 'reason for encounter', checking the preferences and expectations
- actively involving the patient in the decision making process for treatment by giving information
- patient information leaflets may assist in reducing antibiotic prescriptions

2. Qualitative research: interviews with general practitioners

Methodology and research questions

The data of this qualitative research are collected in semi-structured interviews with 17 general practitioners (GP). The GP's were selected on the basis of informal contacts with respect to the following characteristics: sex, age, attitude towards EBM (negative or positive), countryside versus city, the shape of the practice (solo or group practice) and the location (East, West and Dutch Flanders). They were asked for their opinions and attitudes towards EBM and the factors that form a barrier for the implementation of the guidelines in their practice. The results of the interviews are described in paragraph 5 'Conclusions and Recommendations'.

3. Quantitative descriptive registration research for acute sore throat

In total, 74 GP's registered 343 consultations for acute sore throat. The average age of the patient was 36.9 years and 42.3% were men. The average age of the doctors was 47.1 years, 81.8% were men and 75.9% worked in a solo practice.

Why did the patient consult the doctor?

The questionnaire gave 13 possible reasons for encounter. The patient was asked to score on a 4-point scale how important each reason was for him/her. **Patients consult mostly for pain relief, information and (physical) examination.** This is similar to the results of international research. **'I want an antibiotic' is one of the three least important reasons. For 38.1% of the patients this reason is not important at all to visit the doctor.**

The doctor was asked to score on the same scale what he thinks is the most important reason for encounter for this patient. Considering the fact that there is an often longstanding relationship between doctor and patient, the perceptions of the doctors was fairly inaccurate (gamma statistic 0.22-0.79). The best correlation between patient expectations and doctor's perceptions was for 'I want a letter for work or school' and 'I want to know how quickly I will recover' (gamma 0.79). The inaccuracy of the GP's perceptions may be caused by the fact that GP's seldom explicitly ask the patient what they expect during the consultation.

Satisfaction

The patients were asked whether they were satisfied with the fact that some of the 13 different reasons for consulting were discussed or not discussed. We noticed that the patient is more satisfied when one of the reasons was discussed, independently of whether he/she initially scored that reason as important. This confirms the results from international research that satisfaction is closely linked to the attention and time a doctor spends with a patient.

There is a minimal difference between the satisfaction of the patients who received a prescription for antibiotics (average satisfaction score 4.54) and the patients who did not receive a prescription (average satisfaction score 4.44). This difference is not significant ($p=0.187$). For patients who did not receive a prescription for antibiotics but considered it important to receive one (satisfaction score 4.37) there is a small but significant difference ($p=0.02$) in satisfaction compared with patients who didn't consider antibiotics important (satisfaction score 4.44).

How is acute sore throat treated?

Table: Prescribed treatments for acute sore throat.

| | n | % |
|-------------------------------|-----|------|
| No drug treatment | 68 | 21.3 |
| Referral to a specialist | 7 | 2.2 |
| Letter for employer or school | 71 | 22.3 |
| Drug treatment | 252 | 79.0 |
| -Antibiotics | 130 | 40.8 |
| -Analgesics | 136 | 42.6 |
| -Antiseptics | 56 | 17.6 |

In 40.8% of the patients consulting for an acute sore throat a prescription for antibiotics was issued. Of these patients 64.4% know that the prescribed drug is an antibiotic, 13.8% thinks that it is either an analgesic or an antiseptic. Of the 130 patients who received a prescription for antibiotics, only 53.4% mentioned that an important reason for consulting their GP was to receive a prescription. Regarding the type of antibiotics, a first choice antibiotic is prescribed for only 22.8% (small spectrum penicillin) of cases. This result, however is biased, since most of the prescriptions for penicillin were issued in only one of the participating LOK groups.

A neomacrolide is prescribed in 25.2% of the cases.

Relationship between the perception of the doctor and prescription for antibiotics?

As in previous research our results also demonstrate that the doctor's perception of the patient's expectation is an important factor in prescribing antibiotics. Doctors who prescribe an antibiotic significantly more often indicate that their patient wants an antibiotic according to the doctor's perception.

Do the doctors think they follow the guidelines?

A prescription for antibiotics was made by 68 GP's. Of these prescribers 79.4% thinks that they have followed the guideline for acute sore throat. The guideline states that unless the patient is 'at risk' patient, antibiotics are not indicated for the condition of acute sore throat. 13.2% of the GP's indicate that they have not followed the guideline because of the attitude of the patient, 4.4% because of insufficient knowledge of the guideline, 1.5% because they are unsure about the implementation of the guideline and 1.5% for another reason.

4. Intervention in peer review groups (LOK)

From the scientific literature and our own research results, we can conclude that the communication process between doctor and patient is not always satisfactory. Therefore, a small scale intervention has been added to the research during the peer review meetings of the participating doctors.

The intervention/training consisted of three parts:

1. The meeting started with an exercise on the meaning of **context in prescribing** antibiotics for acute sore throat (Howie 1976). The objective of this exercise was to let the participants experience how knowledge of the patient's context plays a role in the decision to prescribe.
2. Secondly, the **results of the registrations** of the participants in the specific peer review group were discussed. Also the guideline on acute sore throat was presented which was often a starting point for a discussion on the intrinsic and practical barriers to the implementation of EBM guidelines.

3. A model for doctor-patient consultation was introduced. This model emphasises the need to explicitly ask about the patient's expectations, empathy aimed at changing behaviour, giving a clear EBM message and to test resistance and reactions of patients to the proposed treatment plan. This consultation model was developed in co-operation with the Department of General Practice and Primary Health Care, University of Ghent. Based on this communication model it is possible to clarify and discuss the message 'antibiotics are not necessary' with the patient. Two doctors were asked to undertake a role play between a general practitioner and a 'difficult' patient. Following the role play there was a discussion on the various aspects of the consultation and this was referenced to the theoretical model.

At the end of the evening the participating doctors were asked to fill out an evaluation form about the contents and the course of the training. Nearly 70% of the participating doctors found the introductory exercise on psychosocial context factors useful. The views on the proposed consult model varied. Many of the GP's were willing to participate in a follow-up research on communicating EBM with patients. **About 70% of the participants think that a LOK group can offer support for the implementation of EBM guidelines in daily practice.**

5. Conclusions and Recommendations

Based on interviews with 17 general practitioners

1. General Practitioners welcome EBM, but they acknowledge a few important barriers:

- 1.1 Conflict between objective, generalised results and the needs of the individual patient
- 1.2 Results of scientific research need to be translated into useful instruments and comprehensive messages for patients
- 1.3 Abuse by the pharmaceutical industry

2. GP's are positive about guidelines, but:

- 2.1 Some guidelines are too minimalist and are subject to change
- 2.2 Patients with strong opinions are difficult to counter
- 2.3 If the guideline does not correspond with the view of the doctor, implementation will be difficult.
- 2.4 The health care system in Belgium (fee for service and absence of patient lists) is a barrier, because a formal (e.g. administrative) relationship between doctor and patient is lacking.
- 2.5 Competition with secondary care forms a barrier as GP's are afraid of offering their patient treatment options without immediate treatment or investigations
- 2.6 A fee-for-service system of medicine provides no incentives for giving adequate information to the patient.
- 2.7 Guidelines need to be available in a printed form.
- 2.8 Guidelines need to be better structured and written in comprehensive, simple language.

3. Some propositions to overcome barriers :

- 3.1 LOK groups are an excellent forum for introducing guidelines
- 3.2 The government needs to work actively on finding a solution for the competition with secondary care.
- 3.3 There is a need for a stronger relationship between GP and patient; e.g. by coupling reimbursement to the Global Medical File (“Globaal Medisch Dossier”).
- 3.4 The actual health care system which is predominantly a fee for service system needs to be abandoned; a better balance is needed between capitation and fee for service.

3.5 Introduction of quality labels with financial incentives for the GP.

Based on the quantitative descriptive registrations on acute sore throat

4. Patients consult their doctor mostly for pain relief, information and clinical examination. “I want an antibiotic” is one of the three least important reasons to consult a GP.
5. GP’s do not explicitly ask their patients what they expect and therefore do not sufficiently understand the needs of the patient.
6. On the whole, patients are satisfied with their doctor. This is unrelated to whether or not their expectations are met.
7. Patients are more satisfied if certain items are discussed during the consultation regardless of whether they are considered to be important. Taking time and giving attention are highly appreciated by the patient.
8. In 40.8% of cases doctors prescribe an antibiotic for acute sore throat. This is much more than the guideline advises!!! However, 79.4% of the GP’s declare that they are following the guidelines. There is a discrepancy between what the GP’s think is ‘guideline-based’ and what is objectively ‘guideline-based’.
9. Doctors do not prescribe a first choice antibiotic (according to the guideline). A broad spectrum antibiotic is mostly prescribed.

Based on the intervention in peer review (LOK) groups

10. An intervention focused on understanding the contents of guidelines and an open attitude towards behaviour change as well as on communication between doctor and patient is feasible and acceptable in the peer review groups.
11. The peer review groups are a useful instrument to improve the implementation of EBM guidelines.

Questions arising. Recommendations for health policy and future research

Based on the results of this descriptive research, recommendations for health care policy can be formulated. Several questions about implementing these recommendations. Also questions on implementation strategies arise that need to be addressed in future research.

Health policy recommendations

Peer review (LOK) groups can play an important role in the implementation of EBM guidelines. The dynamic of LOK groups is well suited to bring about the dialogue necessary for effective behaviour change.

- How can these LOK groups be supported when introducing and implementing guidelines?
What is the role of the group moderators and trainers?
- When new guidelines are published these should systematically be discussed in the LOK groups. How can this be integrated in a programme for a LOK group?
- Can such an intervention in a LOK group be linked to a system of quality assurance?
- How can continuity be guaranteed, considering that a single intervention is insufficient to achieve a lasting change in behaviour?
- International research demonstrates that a combination of individual interventions (academic detailing) and group interventions is more effective. Is this feasible in Belgium?
- How to improve the structural factors related to the health care system, that form a barrier for the implementation of EBM in practice?

Research agenda

- There is resistance to assimilate guidelines with messages that are different from the doctor's own beliefs and performance. Can this resistance be overcome in the context of a LOK group? Which strategy is best? How can this be integrated in the training programme of LOK moderators?
- What elements of an intervention are crucial to achieve a lasting change of behaviour?
What is the role of communication skills?
- What is the effect of LOK interventions on the prescription of antibiotics? How can we measure this?
- What is the cost-effectiveness of a structured intervention aimed at improving prescription of antibiotics in general practice?

- What is the effect of a combined intervention in LOK groups and individual doctors (academic detailing) on the prescription behaviour of general practitioners? What is the cost-effectiveness of a combined intervention?

30 April 2003