

Application of EBM in the daily practice of occupational physicians

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Background

- Quality of Occupational Health Care is served by Occupational Health Practitioners who:
 - Are well educated
 - Experienced
 - Keep up-to-date with research in relevant Occupational Health areas
 - Realize when they do not know the answer to their question

→ Decision making within Occupational Health
Practice is served by Evidence-Based Medicine

Objective

- 1) To study the opportunities and obstacles for EBM in occupational health practice.
- 2) To study if the quality of occupational health care is enhanced when EBM is practiced.

Questions arising from practice

(159 OPs had 283 questions per week)

Category	N	%
Medical topics	108	37
Legal topics	88	30
Information on possibilities for referral	59	20
Statistical / epidemiological topics	33	11
Other	4	1
None	1	0

Information seeking strategies

	Medical topic	Non-medical topic
Ask a colleague for advice	37%	41%
Save the question for a meeting with professionals	10%	19%
Journal or medical textbook	22%	13%
No time, practical solution	18%	12%
Internet or database	10%	11%
Other	4%	4%

Expert-based practice vs EBM

- Case vignettes on 12 occupational health problems
- 14 OPs were asked to consult their experts
- Almost half of experts were colleague-OPs
- 53% of given advice not in line with literature..!
- If experts gave references, only 17% was incorrect

→ not only ask advice but also the evidence for it !

Observation study 20 OPs

- After 40 half day periods: 26 manifest and 348 latent questions
- 40% clinical in nature and suitable for an (EBM) literature search
- ‘lack of time’ or ‘no necessity to look for an answer’ most important reasons for leaving questions unanswered

Obstacles

- Limited awareness
- Limited access
- Limited time
- Limited skills
- Limited stimulance → internally & externally

External incentives have to do with expectations from OHP by

- Employees
- Employers
- Other involving parties

Internal incentives have to do with

- View of occupational health branch what the professional level of the OP should be
- Support by colleagues
- Support by employers of OHP (OHS)

Literature

- EBM course does not contribute to improving skills and a positive attitude (Coomarasamy et al. BMJ 2004 systematic review)
- Lack of stimulating environment is one of the key-factors to prevent integration of EBM in daily practice (Lam et al. Med Educ 2004)
- Educating physicians to become 'do-ers' of EBM is not feasible. But to become 'users' is (Strauss et al. BMJ 2004)

2) To study the if the quality of occupational health care is enhanced when EBM is practiced

Main research questions

Does the intervention enhance

- OPs' EBM knowledge, skills and behaviour?
- the reference to (a high level of) evidence on the occupational health case-files?
- the quality of the assessment of prognosis by the OP?
- the quality of therapy advice by the OP?

Method

Design: A cluster randomized controlled trial

Setting: Occupational Health Services in the Netherlands

Participants: 115 occupational health physicians

Intervention

- EBM course of one and a half day
- Incentives to practice EBM during 4 months
- Case-method learning sessions

Case-method learning

- 6-10 peers discuss their own cases of sick listed employees from daily practice every two weeks
- Pre-structured way; using instructions of Sackett et al. on how to present a patient
- Every four weeks OPs performed a literature search for evidence regarding their own case

Participatory learning: A swedish perspective

A. Kiessling in Heart 2004;90:113-116

Keypoints:

- Passive listening during didactic sessions is unlikely to change behaviour. By contrast, active participation during interactive sessions seems to influence subsequent practice
- Participatory learning methods, with focus on the complex clinical decision process, are well suited to integrate the knowledge of relevant scientific evidence, *what*, with the appropriate *how* and *when* in the local context

- Implementation of EBM in occupational health focuses on increasing knowledge of EBM and stimulating the use of EBM in daily practice of occupational health physicians by
 - Eliminating obstacles
 - Focus on internal incentives
 - Focus on education to become ‘users’ of EBM

Method 1/ Questionnaires

At T0, T', T1 and T2

- **EBM knowledge and skills:**

Fresno test adjusted to OH setting (Ramos KD et al. BMJ 2003)

- **EBM behaviour:**

Self assessment: 22 statements using Likert-scale

Method 2/ case-files

Based on the diagnosis in the case-file the level of evidence was sought and evaluated by the experts:

- I Intervention based on evidence from systematic reviews based on RCTs or 2 RCTs
- II Intervention based on evidence from one RCT
- III Intervention based on convincing non-experimental evidence
- IV Intervention without substantial evidence

Search logs of OPs were analyzed for quality and adjustment of the case-files

Information on structured case - Microsoft Word

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Example Case file Number 1

Age employee 51

Gender (m/f) f

Occupation, tasks Administration work: PC work, phone calls for Bank

Duration sick leave 3 weeks

Short description of case

Since 2 months increasing complaints of tension, emotional unstable, bad concentration. Feels depressed. Situation at home is stressful as partner has recently been fired. At work there is a high work load, especially since a reorganisation of the department.

1) What risk factors at work may play a role?

- Physically demanding work
- Physically and psychological demanding work
- Psychological demanding work
- No risk

2) Medical diagnosis: surmenage pde P619

- Diagnosis by me
- Diagnosis by GP
- Diagnosis by specialist:
- Different:

3) Consequences for the work situation:

- Full sick leave
- Other:

4) Expected duration of prognosis for full time return to work 8

Substantiation (stimulating or blocking factors to return to work)

Situation at home may cause a risk for longer sick leave

Source:

- None
- Occupational health Guidelines on psychological complaints

5) Advised intervention/ guidance:

Time contingent return to work. Consultation with employer for option to adjusted work with less pressure. Consultation with GP for referral to social case work

Substantiation (specific situation)

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Information on structured case - Microsoft Word

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Typ een vraag voor hulp

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Example Log

Nr	Topic	Answer
1	Problem description	A 45 year old male teacher has complaints of being tired, problems with concentration, feeling of inadequacy and depression. Probable diagnosis is burnout. I think of advising him to seek cognitive behavioural therapy but I wonder if there is any recent evidence to substantiate this advise.
2	Formulate a question that describes best your problem	Is CBT more effective than other forms of psychotherapy for Burnout?
3	What type of question is it (etiology, diagnosis, therapy, prognosis)	Therapy
4	Wat voor soort studie (design) zou het beste antwoord geven op uw vraag?	RCT
5	Make a PICO	P: 45 year old male teacher with burnout I: CBT C: other forms of psychotherapy O: positive effect on complaints and/ or increasing functioning (at work)
B Guidelines		
6	Are there any guidelines or websites that answer your question? If yes, which ones?	Yes, occupational health guideline of the NVAB gives some clues
7	Do these guidelines or websites answer your question adequately? If yes, go to question 14 If not, start searching for evidence in the Cochrane Library or PubMed	I want to know more. I will start searching in PubMed.
C Searching with search terms		
8	Describe what search terms you have used, what MeSH terms, and what limits.	"Behavior therapy"[mesh] AND "Burnout, professional"[MeSH]
9	How many relevant hits?	72 articles of which 13 reviews and 1 meta-analysis

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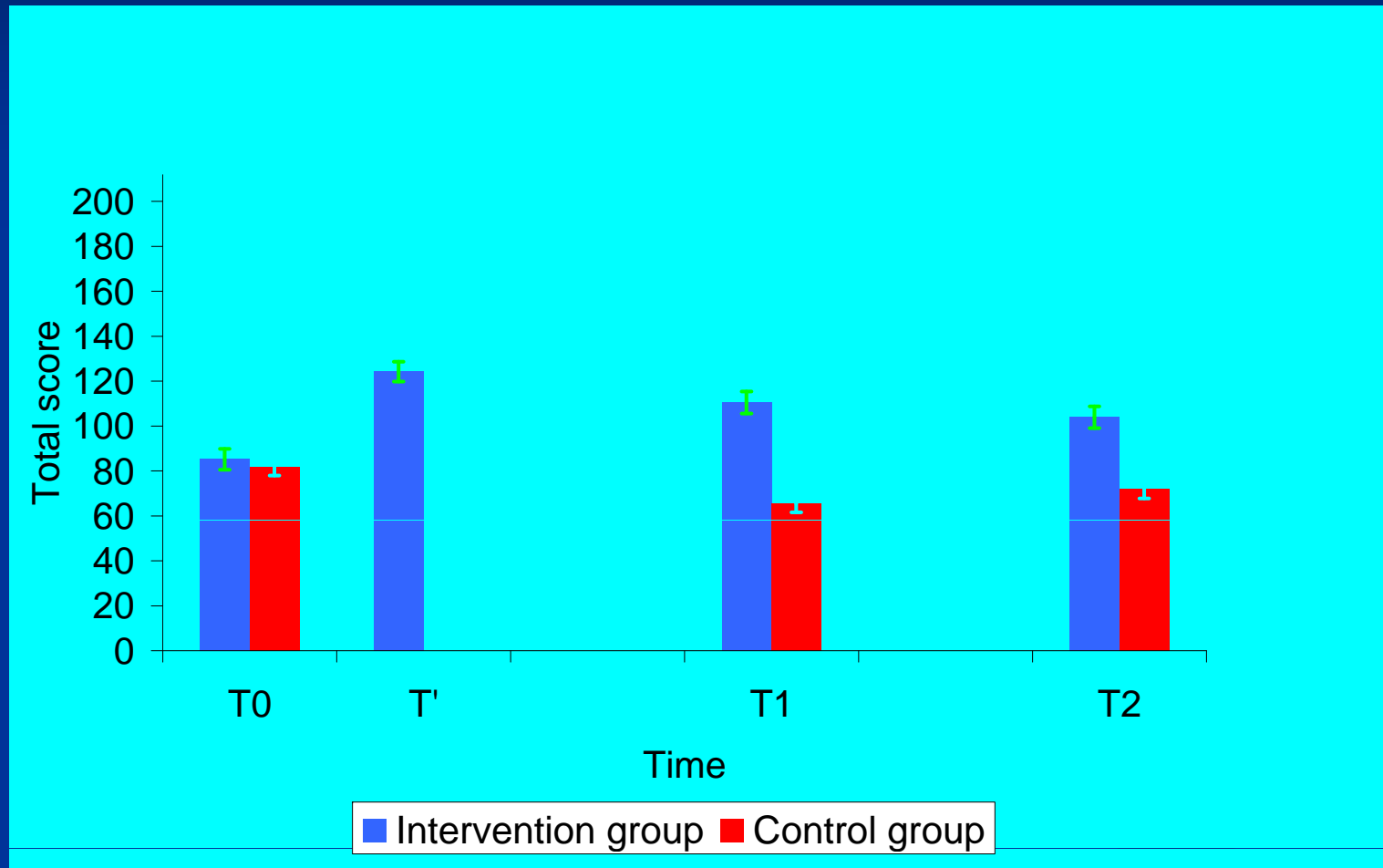
Results

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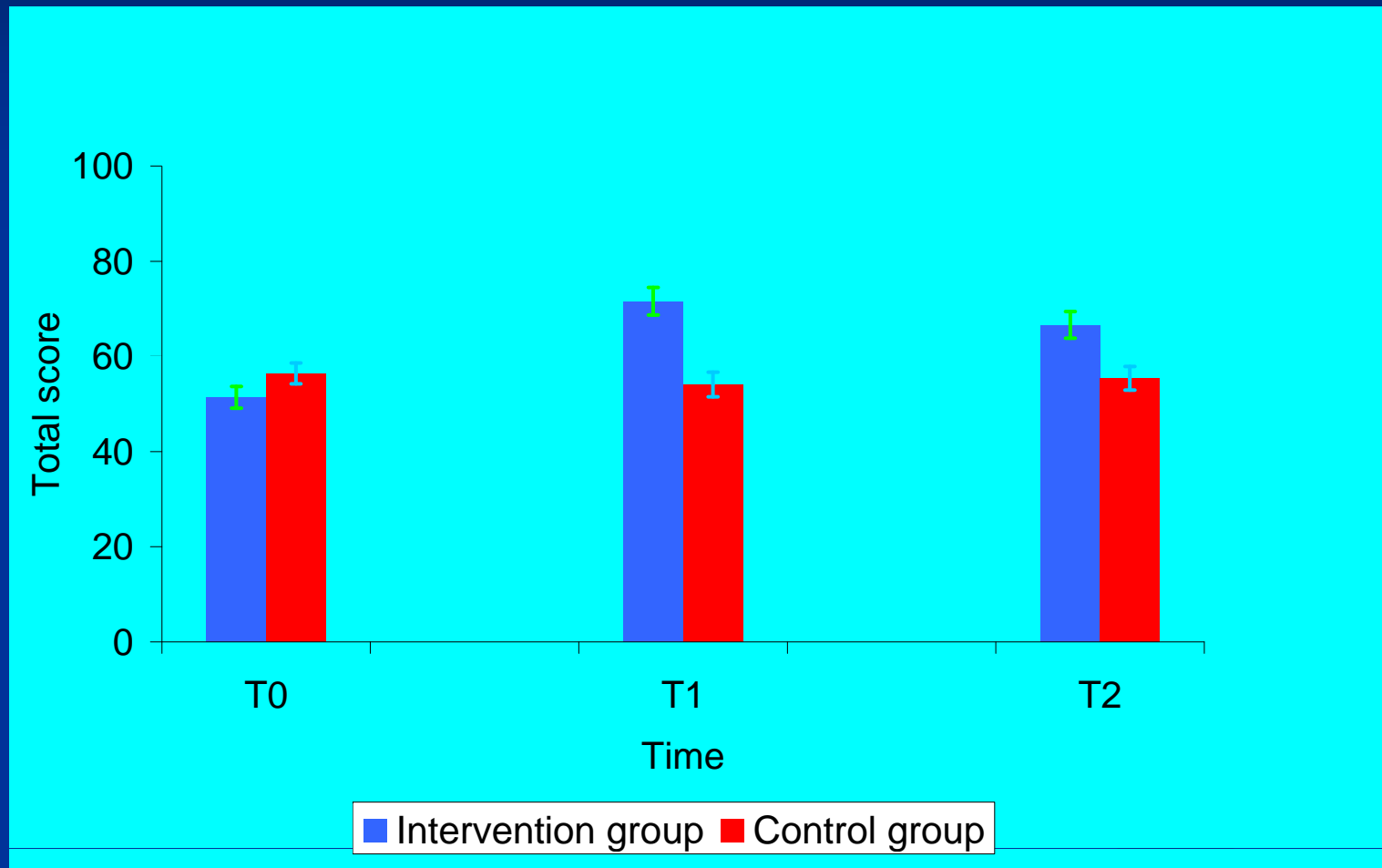
Baseline

	Control Group	Intervention Group
N of potential participants (OPs)	61	54
N of actual participants	58	48
Mean age	45 (SD±7)	47 (SD±6)
Years of experience as OP	13 (SD±7)	14 (SD±6)

Knowledge & Skills



EBM Behaviour



Characteristics of case-files

	Control Group	Intervention Group
Type of disorder *(%):		
■ Musculoskeletal	30	32
■ Psychological	33	16
■ Cardiovascular	11	5
■ Neurological	7	10
■ Respiratory	2	4
■ Digestive	2	6
■ Urological & Genital	4	6
■ Non-specific	4	11
■ Other	7	9
Mean duration of sickness absence in weeks (SD)**	15 (\pm 19)	48 (\pm 25)

Availability of Evidence for case-files according to Experts

Prognosis	57% grade I 19% grade II 11% grade III 13% no evidence
Therapy	53% grade I 14% grade II 12% grade III 21% no evidence

- Provision of high grade I evidence was significantly higher for the cases handed in by the control group (64% versus 37% $p < 0.0001$)

Example 1

Anxiety (including phobia)

Level 1 Prognosis

Level 1 Therapy

CBO guideline

NVAB guideline

NHG guideline

Angina Pectoris

Level 1 Prognosis

Level 1 Therapy

NHG guideline

CBR chauffeurs personenvervoer

Leidraad aanstellingskeuring 2005

NVAB guideline May 2006

Example 2

Breast cancer

Level 2 prognosis

CMAJ. 2005 Sep 27;173(7):765-71. Work absence after breast cancer diagnosis: a population-based study

“One year after diagnosis, 85% (459/541) of breast cancer survivors who remained free of disease during the 3-year study period were absent from work for 4 weeks or more compared with 18% (156/881) of healthy women (geometric mean total duration 5.6 v. 1.7 months, $p < 0.001$).”

Search results of Intervention group

	T1	T2
Type of Question	49% therapy 37% prognosis 15% etiology	53% therapy 38% prognosis 9% etiology
Information found?	90%	80%
Adjustment?	44%	49%
Improvement according to expert?	68%	42%
Quality of search?	83% good 12% reasonable 5% not good	73% good 18% reasonable 9% not good

Correct prognosis and choice of therapy before and after searching for evidence

	Intervention group		Control group
	<u>Before searching</u> % (n)	<u>After searching</u> % (n)	% (n)
Correct assessment of prognosis			
T0	65 (31)	n.a.	59 (34)
T1	65 (26)	73 (29)	53 (26)
T2	71 (30)	74 (31)	67 (35)
Correct choice of therapy			
T0	58 (28)	n.a.	74 (42)
T1	71 (30)	88 (37)*	67 (33)
T2	58 (26)	76 (34)	62 (33)

Summary of Results

- Enhancement of EBM knowledge and skills, also after 4 months
- A substantial amount of evidence is available for OPs to use in daily practice
- Searching for evidence resulted in an adjustment of the prognosis and therapy in half of the cases
- A better therapy advice after 2 months was given by the intervention group, but no significant effect was found after 4 months

Conclusions

EBM can be successfully applied in daily practice of occupational health physicians if:

- There is a continued focus on and stimulus for searches for evidence
- Training in EBM is repeated and skills are maintained

→ Only actual searches for evidence result in a positive effect on the quality of care of the OHP

Discussion points

- How to get OPs and management of OHS to feel obliged to invest in learning EBM practice and to use it in daily routine?
- Value of case-method learning sessions with peers
- Cochrane Review on effect of opinion leaders on professional practice and health care outcomes.
by G Doumit et al. 2007

Thanks for your attention!

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