Evidence in Infection control - Evidence-based guidelines

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MSc in Evidence – Based Practice
Challenges

• Expanded availability of health information
• Increasing costs in health service
• Expectations regarding new treatments and technologies
• Enhanced patient safety
• Patients` extended role in clinical decision making

Straus et al.(2009), Woolf et al. (1999)
Evidence-based practice is the integration of the best evidence, clinical experience and patient values to facilitate clinical decision making.

Reflection

Question formulation

Search for the answer

Critical appraisal

Apply / Implement

Evaluate
Definition of guidelines:

“Systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.”

The purpose of the guidelines / procedures

• Improved care / treatment that increases the quality of service

• Performing patient care based on best available evidence
  – Summing up available evidence
  – Reducing variation in practice
  – New evidence is implemented in practice

Jamtvedt G et al. (2005); Aavitsland P (2002); Thomas LH (2009)
For infection control:
Avoid exaggerated measures!
Characteristics of an evidence-based guideline

- Systematic search for evidence
- Critically appraisal of available evidence
- The relation between recommendations and evidence is obvious
- Documented, transparent developing process

- Information about the search strategy
- Relevant evidence is assessed and described
- When and why were the guideline developed
- Who were members of the guideline development group
- Are any conflicts of interest stated
1. Reflection

2. Question formulation

3. Search for the answer

4. Critical appraisal

5. Apply / Implement

6. Evaluate
Reflections on my own practice

• Guideline updating – more then “a new date”?
• Why do we do as we do?
• Are we aware of new evidence?
• Does the culture of your department allow:
  – addressing questions about recommendations?
  – searching for new evidence?
  – introducing new evidence that may lead to change of practice?
Sources of evidence reported to be used

1. Reflection
2. Question formulation
3. Search for the answer
4. Critical appraisal
5. Apply / Implement
6. Evaluate
From topic to question....

• “How many infections do we have in our hospital?”
• ”Is it necessary to use of face masks in the operating room?”
• ”Is it documented that protection gowns have any purpose?”
• ”How long do microbes stay alive?”
PICO – dividing a question into four parts

• **P =** The population / patient
  • What is it to be examined

• **I =** Intervention
  • Compare two types of measures

• **C =** Comparison
  • Compare two types of measures

• **O =** Outcome
  • Effect of the measure you are interested in
Well – formulated questions

**Initial question**

- Is a waterless, alcohol-based solution an effective agent for hand-washing?

**Formulated question**

- For persons entering a health facility, is hand rubbing with a waterless, alcohol-based solution as effective as standard hand washing with soap for reducing hand contamination?
<table>
<thead>
<tr>
<th>Main questions</th>
<th>Evidence</th>
<th>Study design</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does it feel to have a problem?</td>
<td>Experience</td>
<td>Qualitative methods</td>
</tr>
<tr>
<td>How many have a identified health problem?</td>
<td>Prevalence</td>
<td>Cross-sectional study</td>
</tr>
<tr>
<td>Why will somebody have a problem while others do not?</td>
<td>Ethiology</td>
<td>Cohort study Case – control study</td>
</tr>
<tr>
<td>How can we decide if a person has the problem?</td>
<td>Diagnostics</td>
<td>Cross-sectional study</td>
</tr>
<tr>
<td>How will the targeted person get along with the problem?</td>
<td>Prognosis</td>
<td>Cohort study</td>
</tr>
<tr>
<td>What measures is effective to prevent or treat the problem?</td>
<td>Effect</td>
<td>Randomized controlled trial</td>
</tr>
</tbody>
</table>
1. Reflection
2. Question formulation
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Elektroniske pasientjournalsystemer integrert med forskningsbasert kunnskap

Oppslagsverk over kvalitetsvurderte oversikter og studier. Retningslinjer.

Kvalitetsvurderte systematiske oversikter

Systematiske oversikter

Kvalitetsvurderte primærstudier

Primeærstudier, f.eks. randomiserte kontrollerte studier eller fokusgruppeintervjuer

Systems

Summaries

Synopses of syntheses

Synopses of single studies

Syntheses

Single studies

• Fremtidens pasientjournaler

• Clinical Evidence

• Other Reviews (Cochrane Library)

• Joanna Briggs Best Practice Sheets

• Evidence Based Nursing/Medicine m.fl.

• Cochrane Reviews (Cochrane Library)

• Clinical Queries (Pubmed, Ovid)

• Evidence Based Nursing/Medicine m.fl.

• Clinical Trials (Cochrane Library)

• Clinical Queries (Pubmed, Ovid)

Information on searches for published studies strategy

- Where was the search conducted?
- Date for the search?
- Keywords used.
- Who conducted the search?
- Which evidence was retrieved (comments)?
Dokumentasjon av litteratursøk

<table>
<thead>
<tr>
<th>Spørsmål fra PICO-skjema</th>
<th>Hvordan håndtere kirurgiske snitt som er primært lukket for å forebygge postoperativ sårinfeksjon?</th>
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<table>
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<td>Dato for søk</td>
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<tr>
<td>#34 Select 53 document(s)</td>
<td>09:51:11 53</td>
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<tr>
<td>#32 Search: &quot;Wounds and Injuries&quot;[Mesh] Limits: Humans, All Adult: 19+ years</td>
<td>09:47:21 253217</td>
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<tr>
<td>#28 Search &quot;Anti-Infective Agents&quot;[Mesh] Limits: Humans, All Adult: 19+ years</td>
<td>09:44:10 96169</td>
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<td>#23 Search (#17) NOT (#22)</td>
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<td>#8 Search &quot;Surgical Wound Infection&quot;[Mesh]</td>
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<td>#6 Search &quot;Wound Healing&quot;[Mesh]</td>
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</tbody>
</table>

Kommentar

53 treff sent på e-post, for gjennomgang
Kommentarer 53 treff: Ingen relevante som møtte inklusionskriteriene

Bibliotekar
Regina Küfner Lein

Utarbeidet av Ullevål universitetssykehus - Ullevålsmodellen
Surgical site infection
prevention and treatment of surgical site infection
1. Reflection

2. Question formulation

3. Search for the answer

4. Critical appraisal

5. Apply / Implement

6. Evaluate
Critical appraisal

• Are the results to be trusted?
  Focusing on the method section

• How about the results?
  The main findings in the study have to be clearly stated.

• Can the results be used in your practice?
  Clinical experience is essential to answer this question.

http://www.kunnskapssenteret.no/Verkt%C3%B8y/Sjekklister+for+vurdering+av+forskningsartikler.2031.cms
Quality of evidence (GRADE)

1. **High quality**  Further research is very unlikely to change the estimate of effect

2. **Moderate quality**  Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate

3. **Low quality**  Further research is very likely to have an important impact on our confidence in the estimate of effect and is very likely to change the estimate

4. **Very low quality**  Any estimate of effect is very uncertain

Guyatt GH. et al.,(2008),
Aavitsland P (2002);
GRADE Working Group

- Study design
- Quality of the studies
- Consistency
- Applicability
Evidence from clinical experience

- Organisational information from other hospitals about existing practice / procedures
  - Background for decisions / recommendations
- Tutorials published in journals
- Textbooks
- Information from product literature / equipment company representatives
Incorporate patient preferences

• Statements from “The patients` committee”

• Qualitative studies of patients` experiences

• Clinicians referring patients` view
1. Reflection
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Quality domains in AGREE II:

1. Scope and purpose
2. Stakeholder involvement
3. Rigour of development
4. Clarity of presentation
5. Applicability
6. Editorial independence
External review

- a step in the implementation process
- in order to check the guideline/ procedure for
  - validity
  - clarity
  - applicability
- ensure that relevant clinical experience is integrated in the final edition
Implementation of a new guideline – how to avoid becoming popular!

• Suggest a change in practice
• Take away benefits from someone
• Increase costs without showing any profits
• Introduce measures that will increase burden of work
An example

FIG. 87.1. Maternal mortality at the First and Second Imperial-Royal Obstetric Department of the General Hospital in Vienna, Austria, 1841–1850. ○, First department; ●, Second department. (From ref. 1, with permission.)
Implementation strategies

• Distribution of educational / information materials
• Education, classes and up-grading course
• Reminders
• Educational outreach visits
• Audit and feedback
• Opinion leaders
• Financial support or reward
• Organisational changes
Factors that influence the implementation process

• Characteristics of the guideline itself
  • easy to understand,
  • easy to try out,
  • not require additional resources

• Characteristics of professionals
  • awareness of the guideline existence
  • familiarity with it`s content
  • developed by the target group

Francke et al.(2008)
Factors that influence the implementation process cont.

• Characteristics of the environment
  • lack of support from peers, superiors
  • Insufficient staff and time

• Patient characteristics
  • co-morbidity reduces the compliance
Factors that influence the implementation process continue.

- Characteristics of the implementation strategies
  - multiple strategies of implementation are more effective than one
  - developed by the target group
  - recommendations closer to the end-user and integrated into the process of health care delivery are more likely to be successful
Good luck!
References

• Francke et al. (2008) Factors influencing the implementation of clinical guidelines for health care professionals: a systematic review. BMC Med Inform Decis MAK.8 s.38
• Guyatt GH. GRADE: An emerging consensus on rating quality of evidence and strength of recommendations. BMJ,336(7650),s. 924-6
• Haynes B.(2007) Of studies, syntheses, synopses, summaries, and systems: the ”5S” evolution of information services for evidence-based healthcare decisions. Evidence-based Nursing, 10(1),s.6-7
References


