THE ECOSYSTEM OF EVIDENCE

Lessons learned in the pandemic era and future challenges

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GIMBE EVIDENCE FOR HEALTH

EBM teaching in a pandemic: A pre-post comparison of medical students' self-efficacy for dealing with scientific literature

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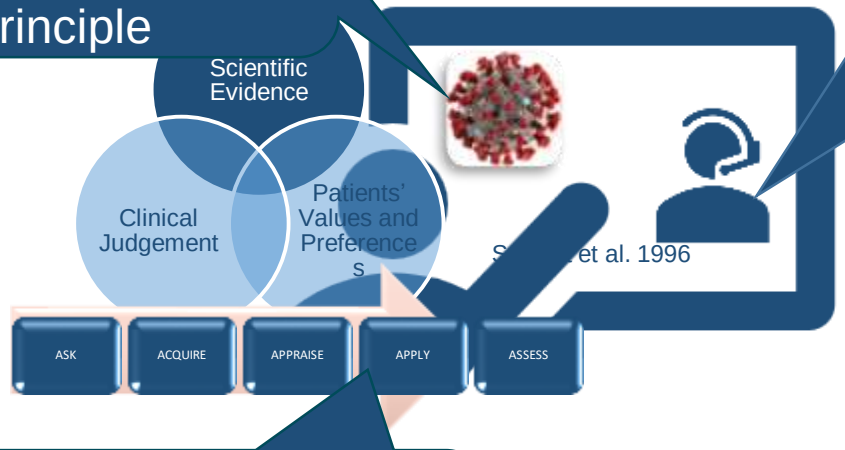
Background

UNIVERSITÄT ZU LÜBECK

- 4th year Medical Students
- Two weeks of EBM-Teaching in six groups (curricular, n=20/group)

Covid-19 as a new - didactic-methodological principle

March 2020
EBM Teaching (online)



Subjective impression of the lecturers: Students increased interest in EBM

- ✓ Self-efficacy according to Bandura (Bandura 1994)
- ✓ Increase in EBM knowledge and self-efficacy after EBM course (Stack et al. 2020)
- ✓ Self-efficacy as a predictor of academic success and academic intention (Chemers et al. 2011, Estrada et al. 2011, Robinson et al. 2018)

Aims

To investigate whether and to what extent teaching EBM concepts in relation to current pandemic events influences students' self-efficacy (SWE) in dealing with medical literature on Covid-19.

Methods

- Prospective study, pre-post online survey at eight-week intervals
- 4th year medical students (n=221) winter/summer semester 2020/2021

- Self-developed survey instrument with a total of 14 items (Cronbachs-α 0,8)
  - Five descriptive items
  - Five items on self-efficacy with regard to handling scientific literature on Covid-19 (following the 5-A's EBM Sackett)
  - Four items on interest in scientific literature/pandemic/importance of EBM skills

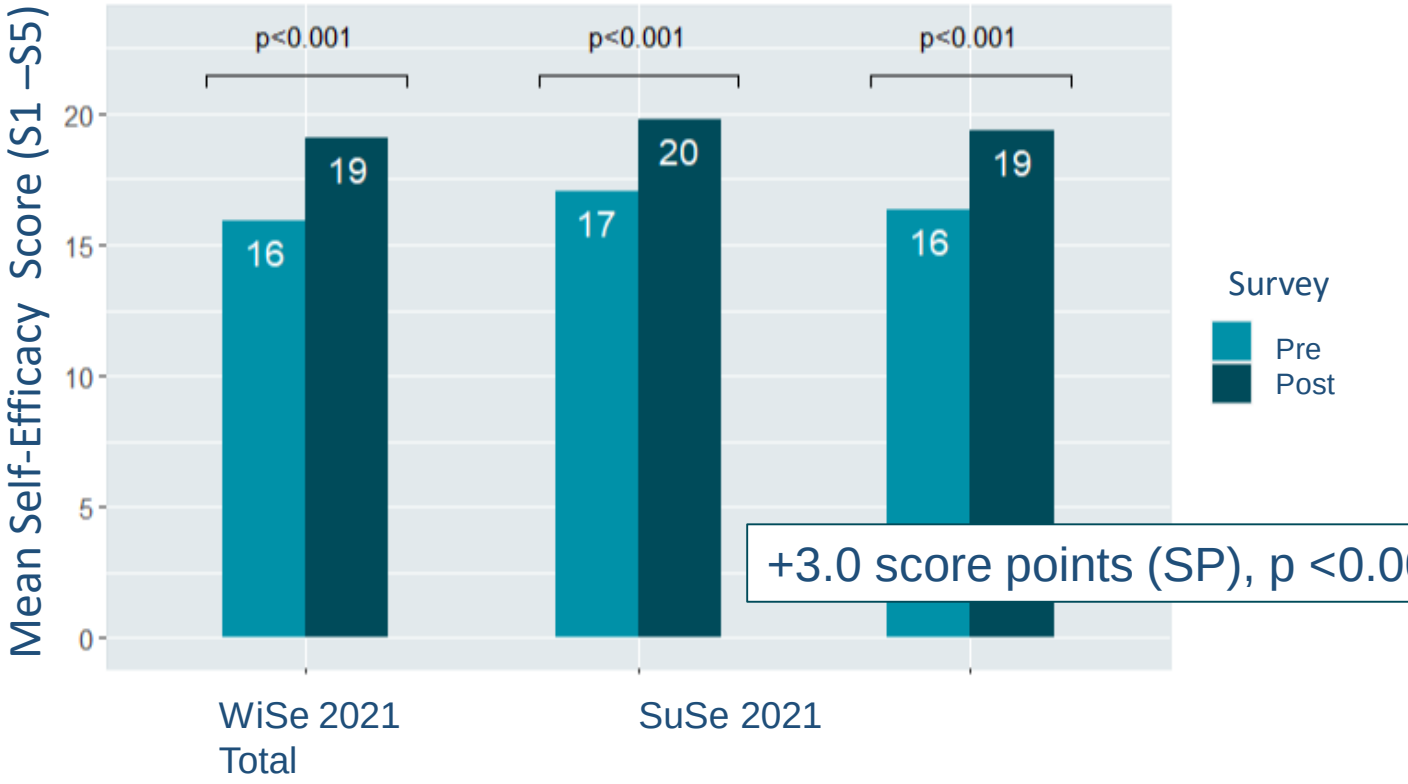
- Self-efficacy presented as the means of the sum of the combined individual items
- Differences between the pre-post survey were tested by paired sample t-test (α=5%)

Results I

Demographics

	Total N = 83 (38%)
Mean age, years (SD)	24.8 (3.4)
Female, n (%)	59 (71%)
PhD started, n (%)	43 (52%)

Mean SWE-Score in dealing with scientific literature (pre/post)



Total and by semester (SWE Score 0-25)

Results II

Interest in scientific literature, the pandemic and importance of EBM s

Selection of Items General interest in…	Total N=83	Winter Semester 2020/2021 N=50	Summer Semester 2021 N=33
I1: …scientific topics in medicine.			
I2: …the current pandemic situation.			
I3: …in scientific literature on the current pandemic situation.			
I0: I believe that competences in the field of EBM are important for me as a future physician.			

Note: Pre = Scale mean from the pre-survey (scale 0-100), MD= Mean difference post-pre, *p<0.05

Limitations

- Self-developed survey questionnaire (validity)
- No comparison group
- No comparison of student’s performance (grades) with pre-pandemic times
- Social desirability cannot be exclude
- No statement on EBM competence of students

Conclusions

- The Covid-19 pandemic can serve in teaching as an important lesson on scientific literacy/ EBM through personal participation and active learning, different from historical pandemic examples (Fourtassi et al. 2020, Anderson et al. 2020).

- Student-oriented and current topics for teaching EBM content seem to have a positive effect on SWE in relation to scientific literature.

- We need more research and exchange on EBM teaching topics with regard to methodological and didactic principles to improve EBM education.

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Let us shed more light on EBM teaching!

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