Impact of an interdisciplinary master program in evidence based practice

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Over time Norwegian policies related to higher health and social care education have increasingly focused on evidence-based practice (EBP) (1-3).

In 2008, an interdisciplinary master program that specifically targeted EBP was started at the Western Norway University of Applied Sciences (4).

At the time, the program was unique in Scandinavia.

To our knowledge, the number of such programs is still limited, and research evaluating such programs scarce.
Aims

› Evaluate the impact of an interdisciplinary master program in EBP in the health sciences
  › on student’s beliefs about the value of evidence-based practice and their ability to implement evidence-based practice, and
  › on the extent to which students implement evidence-based practice
Setting

- Master program in evidence-based practice in the health sciences
- Started in 2008; part-time study over 4 years
- 15 ECTS credits each semester
- Changes over time in learning strategies
  - Modifications following evaluation by students and teachers
  - Towards technology assisted learning (blended learning)
Methods

- Outcome measures were the Evidence-Based Practice Scales by Melnyk et al. (2008)
  - The Evidence-Based Practice Beliefs scale allows measurement of a person's beliefs about the value of EBP and the ability to implement it
    - 16 items, sum scores range from 16 to 80
  - The Evidence-Based Practice Implementation scale allows measurement of the extent to which EBP is implemented
    - 18 items, sum scores range from 0 to 72
- Statistical analyses were based on sum scores transformed to a 0 to 100 scale
- Generalized estimating equations regression was used to estimate longitudinal changes in outcome measures throughout the study program
Results – Baseline demographics

Among 166 eligible students, **160 gave consent to participate**

6 student cohorts

Median number of students per cohort was 29 (range 21 to 33)

<table>
<thead>
<tr>
<th>Variable</th>
<th>%</th>
<th>Mean (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>41 (25 – 58)</td>
</tr>
<tr>
<td>Occupation</td>
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<td></td>
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<tr>
<td>Nurse</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Social educator</td>
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<td></td>
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<tr>
<td>Physical/occupational therapist</td>
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<td></td>
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<tr>
<td>Librarian</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td></td>
</tr>
<tr>
<td>Working full time</td>
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<td></td>
</tr>
<tr>
<td>Years working</td>
<td></td>
<td>14 (0 – 34)</td>
</tr>
<tr>
<td>Working for 10 years or longer</td>
<td>68</td>
<td></td>
</tr>
</tbody>
</table>
Results - The EBP Beliefs Scale

- Mean score at baseline was 60 (SD 8.8)
- Linear increase in mean score was 2.1 units (95% CI 1.7 to 2.5) per semester
- Comparing values at baseline and at the end of the study program, the mean difference was 16 units (95% CI 12-20)
Results - The EBP Implementation Scale

- Mean score at baseline was 13 (SD 12)
- Linear increase in mean score was 1.3 units (95% CI 0.2 to 2.5) per semester
- Comparing values at baseline and at the end of the study program, the mean difference was 10 units (95% CI 4.2-16)
Results - The EBP Beliefs Scale

Cohort

Mean (% CI)

2008  2009  2011  2013  2015  2017

Baseline  Baseline; in retrospect

64  48

Semester
Results - The EBP Implementation Scale

Cohort

Baseline
Baseline; in retrospect

Mean (95% CI)

2008 2009 2011 2013 2015 2017

13 9

Semester
Limits

› Self-reported outcome measures

› While the original EBP Beliefs and EBP Implementation scales have been described with acceptable reliability and validity properties (Melnyk et al. 2008), the Norwegian versions have not been fully validated

› To our knowledge, there is limited evidence of what should be considered high or low EBPB and EBPI scores, and also of what defines a minimal clinical important difference

› The accuracy of the baseline statistics may be questionable
Student's beliefs about the value of evidence-based practice and of their ability to implement it, increased throughout the study program.

The extent that students implemented evidence-based practice also increased throughout the study program.

Implementation scores were, however, consistently lower than beliefs scores.