

Additional file 1: Table S1: Effects of the interventions

Reference	Outcomes	Tools	Results				
Bennet et al.	1. Attitudes 2. Knowledge	1. 5-point Likert scale (1 = 'strongly disagree' and 5 = 'strongly agree') level of agreement with six statements regarding evidence-based practice (range 6 to 30) 2. 3 possible responses ('agree', 'don't know' or disagree') agreement with five statements about evidence-based practice. Items answered incorrectly or with 'don't know' scored 0, a correct response scored 2 (range 0 to 10)	<u>1.</u>				
			Pre-mean score (SD)	Post-mean score (SD)	Change between pre- and post scores Mean (SD)	95% CI	p-value
			19.80 (2.01)	20.02 (1.99)	0.22 (2.85)	(-0.96, 0.52)	0.56
			<u>2.</u>				
			Pre-mean score (SD)	Post-mean score (SD)	Change between pre- and post scores Mean (SD)	95% CI	p-value
			4.14 (2.37)	7.69 (2.31)	3.56 (2.81)	(2.83, 4.29)	< 0.001
Kim et al.	Attitudes	Evidence-based Practice Questionnaire (EBPQ) by Upton and Upton: subscale attitude	Pre-test mean (SEM)	Post-test mean (SEM)	Mean differences	p-value	
			5.60 (0.09)	5.75 (0.10)	0.16	0.198	

Liza-rondo et al.	1. Knowledge 2. Attitudes 3. EBP uptake	1. Adapted Fresno Test (AFT) 2. + 3. Evidence-based Practice Questionnaire (EBPQ) by Upton and Upton	Speech Pathology			
				Pre-test Score Mean ±SD	Post-test Score Mean ±SD	Mean Percentage Change (95% CI)
			Knowledge	25.30 ± 11.94	53.80 ± 23.08	134.36 (54.80 – 213.82)*
			Attitude	22.50 ± 1.84	23.00 ± 2.11	2.65 (-4.16 – 9.41)
			EBP Uptake	26.20 ± 8.93	32.00 ± 6.41	42.30 (-4.76 – 89.41)
			Physiotherapy			
				Pre-test Score Mean ±SD	Post-test Score Mean ±SD	Mean Percentage Change (95% CI)
			Knowledge	32.26 ± 14.65	79.52 ± 18.70	245.90 (110.65 – 381.23)*
			Attitude	19.50 ± 3.47	21.89 ± 4.46	15.85 (6.54 – 25.26)*
			EBP Uptake	18.89 ± 6.66	26.57 ± 8.12	71.06 (12.24 – 129.88)*
			Social Work			
				Pre-test Score Mean ±SD	Post-test Score Mean ±SD	Mean Percentage Change (95% CI)
			Knowledge	24.19 ± 9.87	43.06 ± 14.82	141.20 (24.09 – 258.34)*

Attitude	19.56 ± 3.37	20.81 ± 3.23	8.04 (-0.29 – 16.39)
EBP Uptake	22.56 ± 8.14	26.00 ± 5.49	28.25 (4.73 – 51.77)*

Occupational Therapy

	Pre-test Score Mean ±SD	Post-test Score Mean ±SD	Mean Percentage Change (95% CI)
Knowledge	22.75 ± 10.87	55.58 ± 22.66	198.50 (135.71 – 261.34)*
Attitude	21.31 ± 3.13	21.75 ± 3.69	2.73 (-1.98 – 7.46)
EBP Uptake	21.56 ± 7.92	22.50 ± 8.28	16.52 (-5.86 – 38.92)

Dietetics / Nutrition

	Pre-test Score Mean ±SD	Post-test Score Mean ±SD	Mean Percentage Change (95% CI)
Knowledge	31.75 ± 9.80	59.08 ± 22.63	87.81 (50.73 – 124.93)*
Attitude	21.17 ± 3.16	21.00 ± 3.38	0.20 (-8.34 – 8.75)
EBP Uptake	18.92 ± 8.08	23.58 ± 7.22	39.18 (8.56 – 69.78)*

* Significant at 0.05

Mc Cluskey et al.	Knowledge	Adapted Fresno Test (AFT)	1. AFT total scores (means, SD)			
				Pre-Workshop (n=114)	Post-Workshop (n=106)	8-month Follow-up (n=51)
			Total score (0 to 156)	57.1 (±26.7)	78.3 (±18.6)	82.2 (±24.5)
AFT scores, mean differences						
				Mean Diff	95% CI	p-value
			Pre- to Post-Workshop Total score (0-156)	20.6	15.6 – 25.5	0.0001
			Post-Workshop to 8-month Follow-up Total score (0-156)	1.2	-6.0 – 8.5	0.734
			Pre-Workshop to 8-month Follow-up Total score (0-156)	23.1	14.7 – 31.6	0.0001

Meyer et al.	Knowledge and Skills	Multiple choice test (13 items on three subscales)	<table border="1"> <thead> <tr> <th>Total score (maximum)</th> <th>Before test Means (SD)</th> <th>After test Means (SD)</th> <th>Difference Means (SD)</th> </tr> </thead> <tbody> <tr> <td>Total (13.5)</td> <td>4.6 (±1.9)</td> <td>6.8 (±1.8)</td> <td>2.2* (±2.1)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Subscales score (maximum)</th> <th>Before test Means (SD)</th> <th>After test Means (SD)</th> <th>Difference Means (SD)</th> </tr> </thead> <tbody> <tr> <td>Study characteristics (5)</td> <td>1.9 (±1.1)</td> <td>2.7 (±1.2)</td> <td>0.8* (±1.3)</td> </tr> <tr> <td>Computation (3)</td> <td>2.3 (±0.9)</td> <td>2.7 (±0.5)</td> <td>0.4* (±1.0)</td> </tr> <tr> <td>Communication (5.5)</td> <td>0.4 (±0.6)</td> <td>1.4 (±1.0)</td> <td>1.0* (±1.2)</td> </tr> </tbody> </table> <p>*Significant at 0.05</p>				Total score (maximum)	Before test Means (SD)	After test Means (SD)	Difference Means (SD)	Total (13.5)	4.6 (±1.9)	6.8 (±1.8)	2.2* (±2.1)	Subscales score (maximum)	Before test Means (SD)	After test Means (SD)	Difference Means (SD)	Study characteristics (5)	1.9 (±1.1)	2.7 (±1.2)	0.8* (±1.3)	Computation (3)	2.3 (±0.9)	2.7 (±0.5)	0.4* (±1.0)	Communication (5.5)	0.4 (±0.6)	1.4 (±1.0)	1.0* (±1.2)
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Varnell et al.	1. Attitudes 2. Implementation of EBP	1. Evidence-based practice beliefs (EBPB) scale: 16 items (range 16 to 80) 2. Evidence-based practice implementation (EBPI) scale. 18-item Likert-type scale; Responses range from “0” (zero times) to “4” (>8 times). Range 0 to 72	<p>1. Scores of EBPB scale</p> <table border="1"> <thead> <tr> <th>Before test means (SD)</th> <th>After test means (SD)</th> <th>p-value</th> </tr> </thead> <tbody> <tr> <td>57.10 (±5.73)</td> <td>63.73 (±4.50)</td> <td><0.01</td> </tr> </tbody> </table> <p>2. Scores of EBPI Scale</p> <table border="1"> <thead> <tr> <th>Before test means (SD)</th> <th>After test means (SD)</th> <th>p-value</th> </tr> </thead> <tbody> <tr> <td>15.29 (±13.65)</td> <td>22.86 (±11.35)</td> <td><0.01</td> </tr> </tbody> </table>				Before test means (SD)	After test means (SD)	p-value	57.10 (±5.73)	63.73 (±4.50)	<0.01	Before test means (SD)	After test means (SD)	p-value	15.29 (±13.65)	22.86 (±11.35)	<0.01												
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Yost et al.	1. Knowledge 2. Skills 3. Implementation/behaviour	1. and 2. Multiple-choice test (18 items, range 0 to 36) 3. Evidence-based practice implementation (EBPI) scale. 18-item Likert-type scale; Responses range from “0” (zero times) to “4” (>8 times). Range 0 to 72	1. and 2. Total scores for knowledge and skills				
			Before test means (SD)	After test means (SD)	Mean difference	95% CI	p-value
			9.5 (±3.4)	15.1 (±5.2)	5.6	3.7 to 7.4	<0.001
			After test means (SD)	6-month follow-up	Mean difference	95% CI	p-value
			15.1 (±5.2)	13.2 (±5.1)	-1.9	-3.7 to -0.3	0.018
			Before test means (SD)	6-month follow-up	Mean difference	95% CI	p-value
			9.5 (±3.4)	13.2 (±5.1)	3.7	2.1 to 5.3	<0.001
			3. Total scores for EBPI scale				
			Before test means (SD)	6-month follow-up	Mean difference	95% CI	p-value
			14.5 (±11.9)	16.2 (±11.3)	1.7	-3.8 to 0.3	0.095
Chen et al.	Skills	Critique test including 45 criteria (range 0 – 45 points)	Critique Pre-test (mean, SD)	Critique Post-test (mean, SD)	p-value		
			Intervention Group (n=94)	5.11 ±3.00	11.32 ±5.13	<0.0001	
			Control Group (n=74)	4.39 ±2.59	6.59 ±3.89	<0.0001	

Courey et al.	Attitudes	4-point Likert-Scale, scores ranging from 4 (agree) to 1 (disagree)	<p>Mean score for attitudes</p> <table border="1"> <thead> <tr> <th></th> <th>Pre-test (mean, SD)</th> <th>Post-test (mean, SD)</th> </tr> </thead> <tbody> <tr> <td>Intervention Group *</td> <td>3.43 ±0.39</td> <td>2.82 ±0.83</td> </tr> <tr> <td>Control Group</td> <td>3.54 ±0.39</td> <td>3.47 ±0.50</td> </tr> </tbody> </table> <p>* Decrease in positive attitude from pre- to post-test (Wilks' Lambda F=20.140; df=1.58; p<0.0001)</p>					Pre-test (mean, SD)	Post-test (mean, SD)	Intervention Group *	3.43 ±0.39	2.82 ±0.83	Control Group	3.54 ±0.39	3.47 ±0.50
	Pre-test (mean, SD)	Post-test (mean, SD)													
Intervention Group *	3.43 ±0.39	2.82 ±0.83													
Control Group	3.54 ±0.39	3.47 ±0.50													
Jalali-Nia et al.	Attitudes	4-point Likert-scale, 21 questions, scores ranging from 4 (totally agree) to 1 (totally disagree)		Intervention group mean (SD), n = 20	Control group mean (SD), n = 21	p-value									
			Attitude	78.14 (9.1)	59.95 (6.1)	p < 0.001									
Stevenson et al.	Attitudes	1. Agreement with 7 statements. Scores were based on a 3-point Likert-scale: agree; neither agree nor disagree; disagree	<p>The results demonstrated changes in attitudes towards some elements of the EBP concept following the intervention package including increased preference towards trust training programs for EBP and increased support given from management to undertake EBP. The size of the effect was small, partly reflecting the fact that at baseline this group already viewed EBP in a positive light. However, putting the concept into practice through research and literature searching was given a low priority by the physiotherapists.*</p> <p>*No further details reported</p>												

Levin et al.	1. Attitudes 2. Implementation of EBP	1. 16-item EBP belief scale (5-point Likert-scale, range 16 to 80) higher scores indicating stronger beliefs about EBP 2. Evidence-based practice implementation (EBPI) scale. 18-item Likert-type scale; Responses range from "0" (zero times) to "4" (>8 times). Range 0 to 72	<p>1. Main effect for group ($F_{1,15} = 33.105, p < 0.001$), a quadratic main effect of time ($F_{1,15} = 7.335, p < 0.016$) and a significant interaction between group and time ($F_{3,45} = 16.342, p = 0.001$)</p> <p>2. Overall score of the intervention group ($M = 29.52$) on the EBPI scale was significantly higher than that of the control group ($M = 10.44$)</p> <table border="1"> <thead> <tr> <th></th> <th>Intervention group</th> <th>Control group</th> <th></th> </tr> </thead> <tbody> <tr> <td>Baseline</td> <td>15.40</td> <td>10.53</td> <td></td> </tr> <tr> <td>4-month follow up</td> <td>41.46*</td> <td>14.83*</td> <td></td> </tr> <tr> <td>13-month follow up</td> <td>31.64*</td> <td>6.17*</td> <td></td> </tr> </tbody> </table> <p>* Significant at 0.05</p>					Intervention group	Control group		Baseline	15.40	10.53		4-month follow up	41.46*	14.83*		13-month follow up	31.64*	6.17*	
	Intervention group	Control group																				
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Dizon et al.	1. Knowledge/Skills 2. Attitudes 3. Implementation/behaviour	1. Adapted Fresno Test (AFT)	<p>AFT scores (total = 0-156)</p> <table border="1"> <thead> <tr> <th></th> <th>Intervention group Median (IQR), 95% CI</th> <th>Control group Median (IQR), 95% CI</th> <th>p-value</th> </tr> </thead> <tbody> <tr> <td>Pre training</td> <td>11.0 (8.0-32.5), 9.0-21</td> <td>21.0 (5.0-29.5), 7.9-26.1</td> <td>0.97</td> </tr> <tr> <td>Post training</td> <td>68.0 (51.5-76.8), 53.0-72.0</td> <td>20.0 (9.3-30.8), 11.0-30.0</td> <td><0.0001*</td> </tr> </tbody> </table>		Intervention group Median (IQR), 95% CI	Control group Median (IQR), 95% CI	p-value	Pre training	11.0 (8.0-32.5), 9.0-21	21.0 (5.0-29.5), 7.9-26.1	0.97	Post training	68.0 (51.5-76.8), 53.0-72.0	20.0 (9.3-30.8), 11.0-30.0	<0.0001*							
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		<p>2. Six Questions related to changing practice and confidence in searching literature or undertaking critical appraisal. Questions are to be answered with agree, disagree or neither</p> <p>3. Measured by activity diaries. Participants of both groups were instructed to log EbM related activities in their working environment. A distinction was made for unique cases and usual cases</p>	<p>3-month post training</p>	<p>53.0 (39.2-71.8), 42.0-69.1</p>	<p>9.0 (8.0-27.5), 9.0-15.2</p>	<p><0.0001*</p>																								
			<p>* Significant at 0.05</p> <p>Significant difference were found between the groups immediate post-training and three month post-training in terms of two EbM activities:</p> <p>More participants in the intervention group disagreed in terms of “lacking confidence in undertaking a literature search” and more participants in the intervention group agreed in terms of “confidence in undertaking critical appraisal”</p> <p>No significant differences were found between the groups in terms of the remaining four EbM activities, specifically at three month post-training.</p> <p>Comparison of behaviour performed by the participants when faced with new or unique cases:</p>																											
			<table border="1"> <thead> <tr> <th></th> <th>Intervention group n = 14</th> <th>Control group n = 10</th> <th>P value</th> </tr> </thead> <tbody> <tr> <td colspan="4">EbM behaviours when faced with new or unique cases</td> </tr> <tr> <td>Participants who formulated PICO</td> <td>11 (78,6%)</td> <td>0 (0%)</td> <td>0.0001*</td> </tr> <tr> <td>Participants who logged PICO</td> <td>4 (28,6%)</td> <td>0 (0%)</td> <td>0.037*</td> </tr> <tr> <td>Participants who searched research evidence</td> <td>10 (71,4%)</td> <td>3 (30%)</td> <td>0.04*</td> </tr> <tr> <td>Participants who appraised evidence</td> <td>4 (28,6%)</td> <td>0 (0%)</td> <td>0.037*</td> </tr> </tbody> </table>					Intervention group n = 14	Control group n = 10	P value	EbM behaviours when faced with new or unique cases				Participants who formulated PICO	11 (78,6%)	0 (0%)	0.0001*	Participants who logged PICO	4 (28,6%)	0 (0%)	0.037*	Participants who searched research evidence	10 (71,4%)	3 (30%)	0.04*	Participants who appraised evidence	4 (28,6%)	0 (0%)	0.037*
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			Participants who applied evidence	4 (28,6%)	0 (0%)	0.037*
			Non- EbM behaviours when faced with new or unique cases			
			Participants who asked colleagues	11 (78,6%)	8 (80%)	0.93
			Participants who asked MD	6 (42.9%)	10 (100%)	0.003*
			Participants who read textbooks	8 (57.1%)	10 (100%)	0.017*
			* Significant at 0,05			
			Comparison of behaviour performed by the participants when faced with usual cases:			
				Intervention group N = 9	Control group N = 10	p-value
			EbM behaviours when faced with usual cases			
			Participants who formulated PICO	8 (88,9%)	0 (0%)	<0.001
			Participants who logged PICO	2 (22,2%)	0 (0%)	0.16
			Participants who searched research evidence	9 (100%)	3 (30%)	0.0016*
			Participants who appraised evidence	3 (33.3%)	0 (0%)	0.04*
			Participants who applied evidence	4 (44.4%)	0 (0%)	0.018*

			Non-EbM behaviours when faced with usual cases			
			Participants who asked colleagues	7 (77.8%)	8 (80%)	0.906
			Participants who asked MD	4 (44.4%)	7 (70%)	0.26
			Participants who read textbooks	7 (77.8%)	7 (70%)	0.70
			* Significant at 0.05			