

## **Additional tables and figures**

### **Manual joint mobilisation techniques, supervised physical activity, psychological treatment, acupuncture and patient education for patients with tension-type headache. A systematic review and meta-analysis**

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**Table 1** Primary and secondary outcomes for, manual joint mobilisation techniques, supervised physical activity, psychological treatment, acupuncture, and patient education.

Interventions	Outcome	Time-point	Primary/secondary
• Manual joint mobilisation techniques	Headache frequency, days per month	At the end of treatment	Primary
	Quality of life	At the end of the treatment	Primary
• Supervised physical activity	Headache frequency, days per month	Follow-up after the end of treatment	Secondary
	Quality of life	Follow-up after the end of treatment	Secondary
• Acupuncture	Headache intensity measured on Numeric rating scale or 100mm VAS	At the end of the treatment	Secondary
	Frequency of tension-type headache, days per month	At the end of the treatment	Secondary
	Functioning	At the end of the treatment	Secondary
	Acute medication intake in days	At the end of the treatment	Secondary
	Sick leave, days per month	At the end of the treatment	Secondary
	Serious adverse events	At the end of the treatment	Secondary
	• Psychological treatment	Headache frequency, days per month	At the end of the treatment
Quality of life		At the end of the treatment	Primary
Functioning		At the end of the treatment	Primary
Headache intensity measured on Numeric rating scale or 100mm VAS		At the end of the treatment	Secondary
Compliance		At the end of the treatment	Secondary
Frequency of tension-type headache, days per month		At the end of the treatment	Secondary
Functioning		Follow-up after the end of treatment	Secondary
Depression		At the end of the treatment	Secondary
Anxiety		At the end of the treatment	Secondary
Stress symptoms		At the end of the treatment	Secondary
Serious adverse events		At the end of the treatment	Secondary
• Patient education	Headache frequency, days per month	At the end of the treatment	Primary
	Quality of life	At the end of the treatment	Primary
	Degree of increased knowledge about illness and treatment	At the end of the treatment	Primary
	Frequency of tension-type headache, days per month	At the end of the treatment	Secondary
	Headache intensity measured on Numeric rating scale or 100mm VAS	At the end of the treatment	Secondary
	Self-rated health	At the end of the treatment	Secondary
	General pain	At the end of the treatment	Secondary
	Burden of symptoms	At the end of the treatment	Secondary
	Serious adverse events	At the end of the treatment	Secondary

Evaluation of the guideline: National Institute for Health and Care Excellence. "Headaches in over 12s: diagnosis and management [CG150]." (2012).

<i>Domain 1. Scope and Purpose</i>		
	Appraiser 1	Appraiser 2
Item 1	6	5
Item 2	5	6
Item 3	7	3

<i>Domain 2. Stakeholder Involvement</i>		
	Appraiser 1	Appraiser 2
Item 4	4	4
Item 5	5	6
Item 6	5	4

<i>Domain 3. Rigour of Development</i>		
	Appraiser 1	Appraiser 2
Item 7	3	6
Item 8	7	6
Item 9	6	6
Item 10	5	6
Item 11	7	6
Item 12	6	6
Item 13	2	1
Item 14	5	4

<i>Domain 4. Clarity of Presentation</i>		
	Appraiser 1	Appraiser 2
Item 15	6	6
Item 16	7	4
Item 17	7	6

<i>Domain 5. Applicability</i>		
	Appraiser 1	Appraiser 2
Item 18	2	4
Item 19	1	3
Item 20	7	5
Item 21	7	2

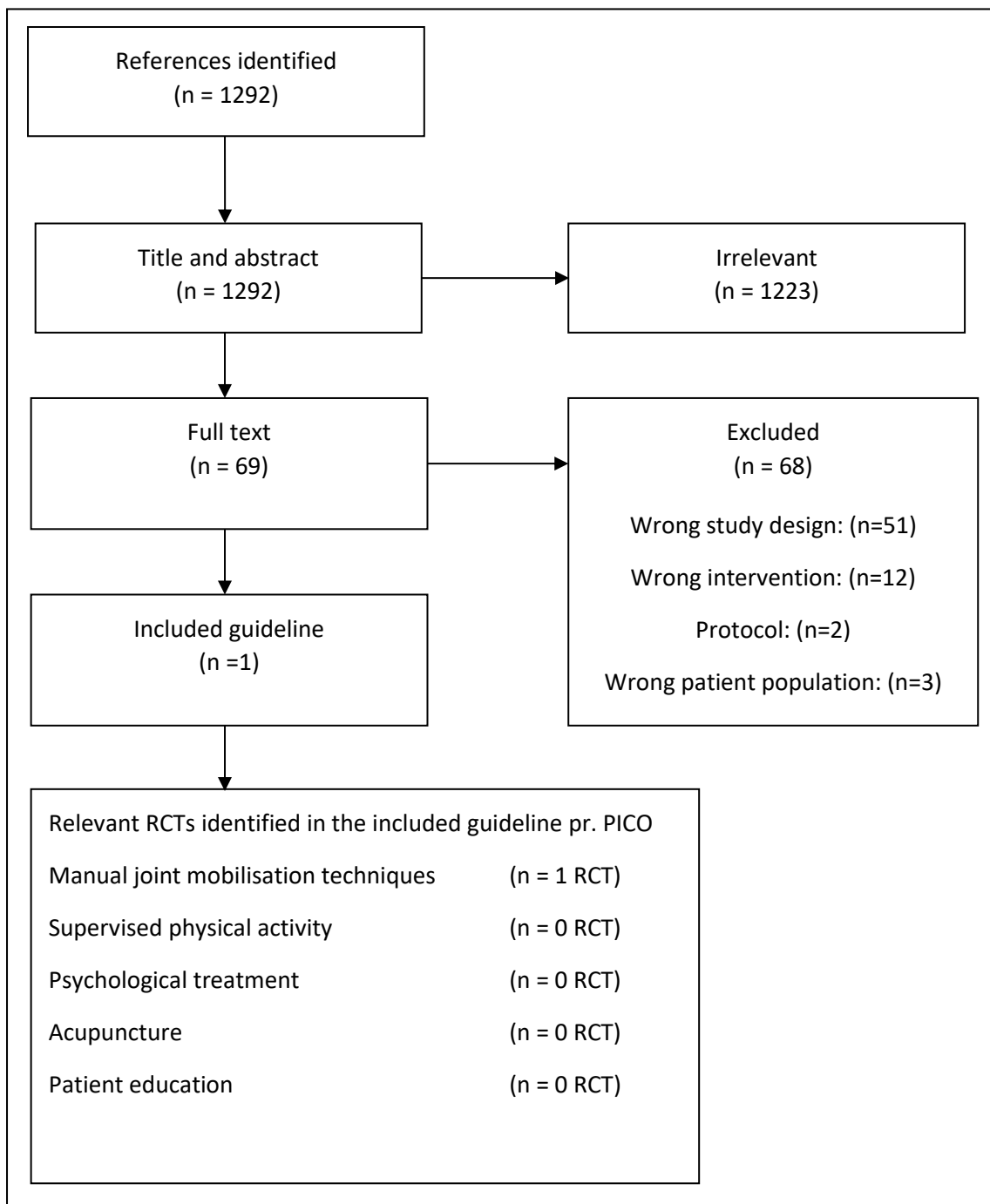
<i>Domain 6. Editorial Independence</i>		
	Appraiser 1	Appraiser 2
Item 22	7	3
Item 23	4	4

<i>Overall Assessment</i>		
	Appraiser 1	Appraiser 2
OA1	5	5

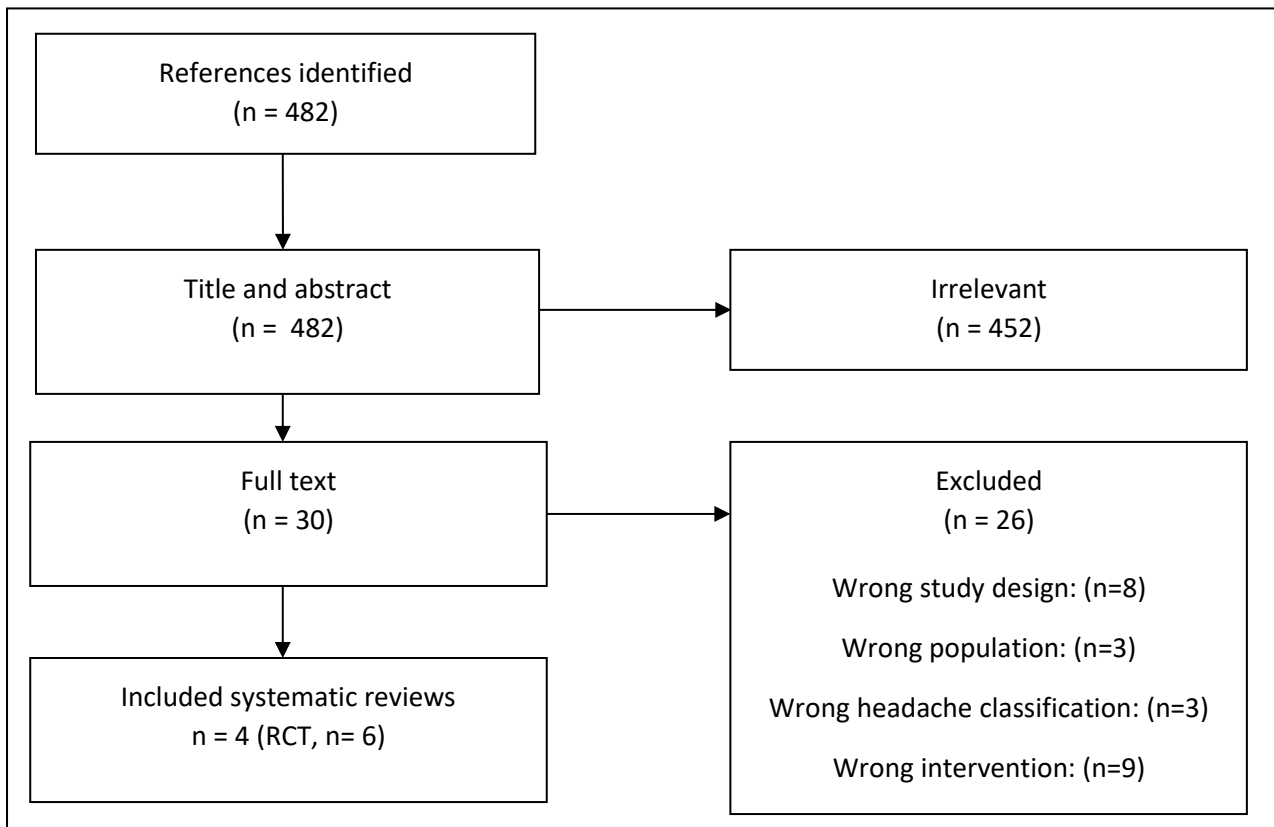
**Fig. 1** AGREE evaluation

**Table 2** AMSTAR Evaluation

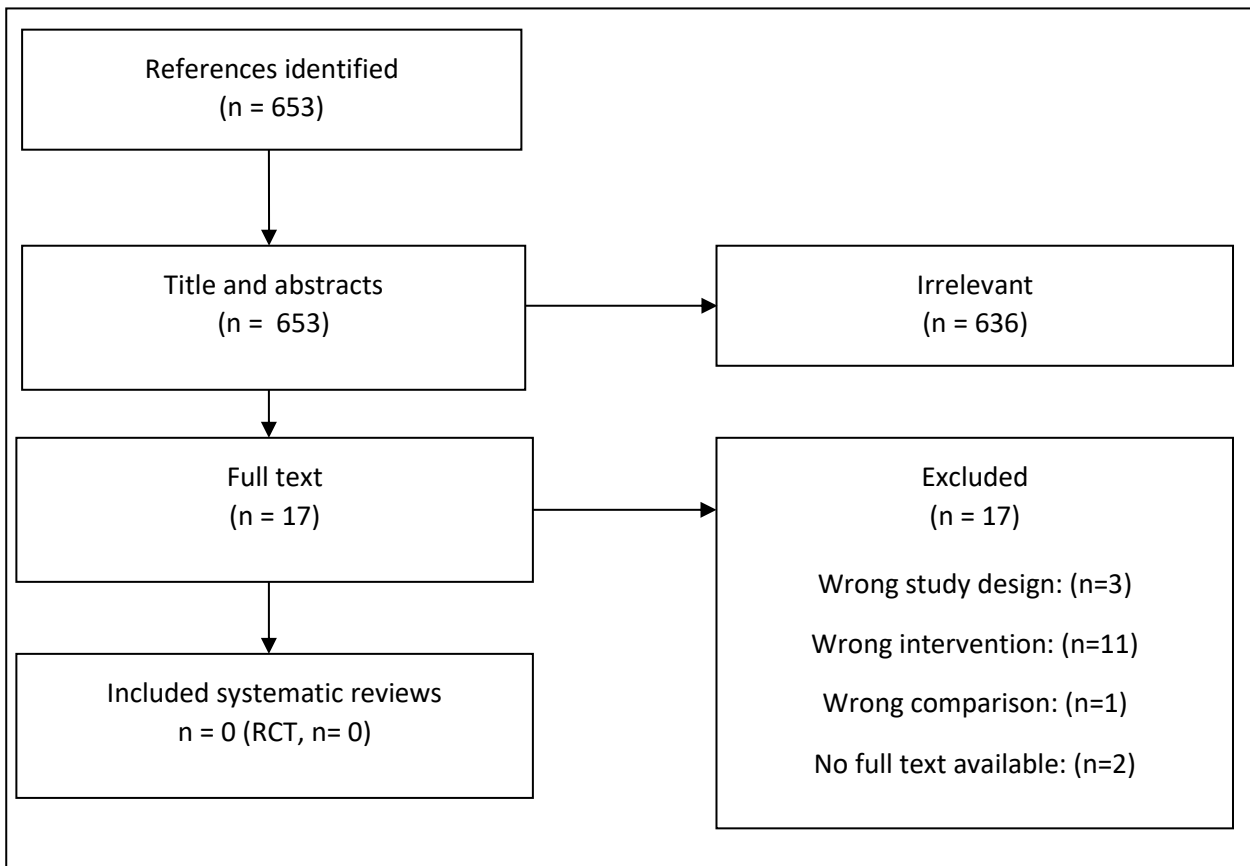
Name	Was meta-analysis performed for the relevant outcomes?	1. Was an 'a priori' design provided?	2. Was there duplicate study selection and data extraction?	3. Was a comprehensive literature search performed?	4. Was the status of publication (i.e. grey literature) used as an inclusion criterion?	5. Was a list of studies (included and excluded) provided?	6. Were the characteristics of the included studies provided?	7. Was the scientific quality of the included studies assessed and documented?	8. Was the scientific quality of the included studies used appropriately in formulating conclusions?	9. Were the methods used to combine the findings of studies appropriate?	10. Was the likelihood of publication bias assessed?	11. Was conflict of interest included?
Cerritelli et al. 2017	No	No	Yes	Yes	Yes	Can't answer	Yes	Yes	Yes	Yes	Yes	Yes
Falsiroli Maistrello et al. 2019	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Coelho et al. 2019	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Falsiroli Maistrello et al. 2018	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Anheyer et al. 2019	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gu et al. 2018	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Harris et al. 2015	No	No	Yes	Yes	No	Can't answer	Yes	Yes	Yes	No	No	Yes
Lee et al. 2019	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Linde et al. 2016	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
France et al. 2014	No	No	Yes	Yes	No	No	Yes	Yes	No	No	No	Yes



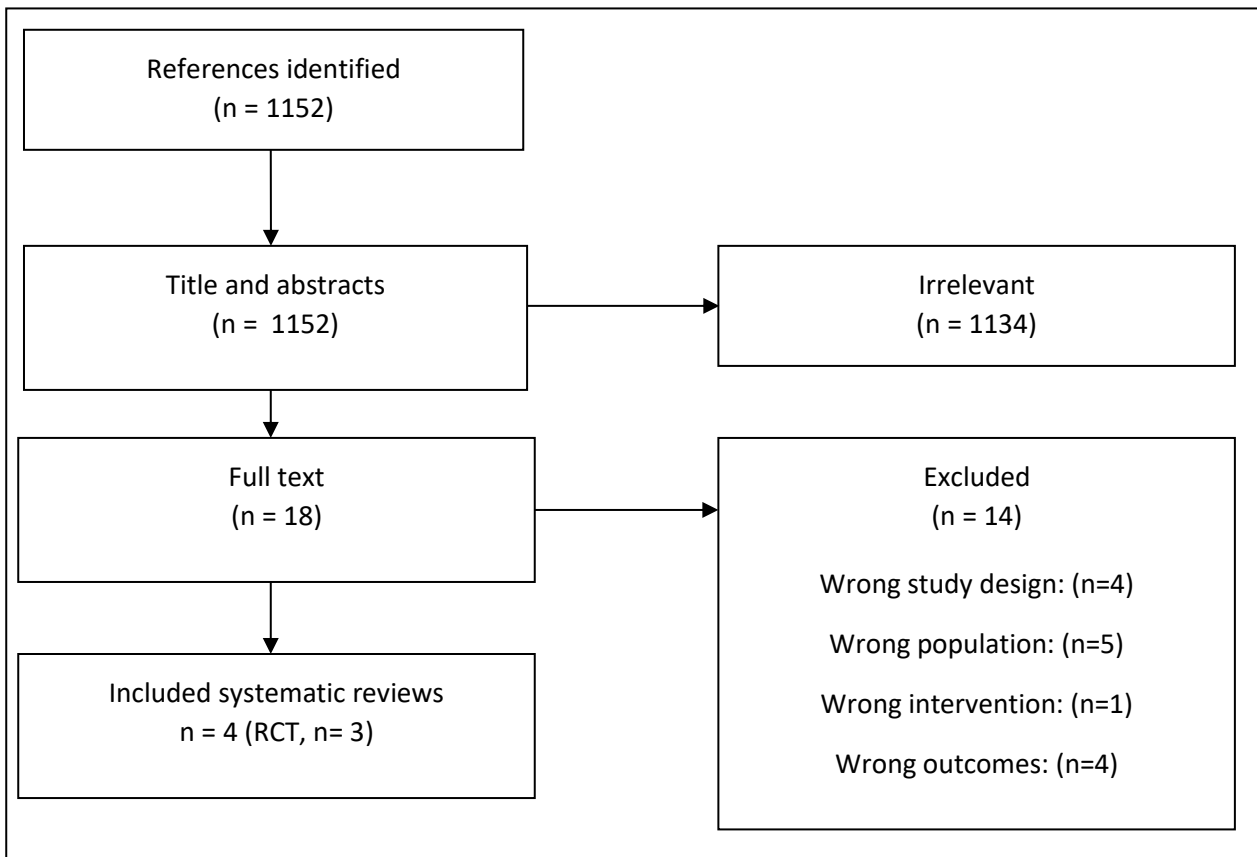
**Fig. 2** Flowchart, search for guidelines.



**Fig. 3** Flowchart, search for systematic reviews, manual joint mobilisation techniques.

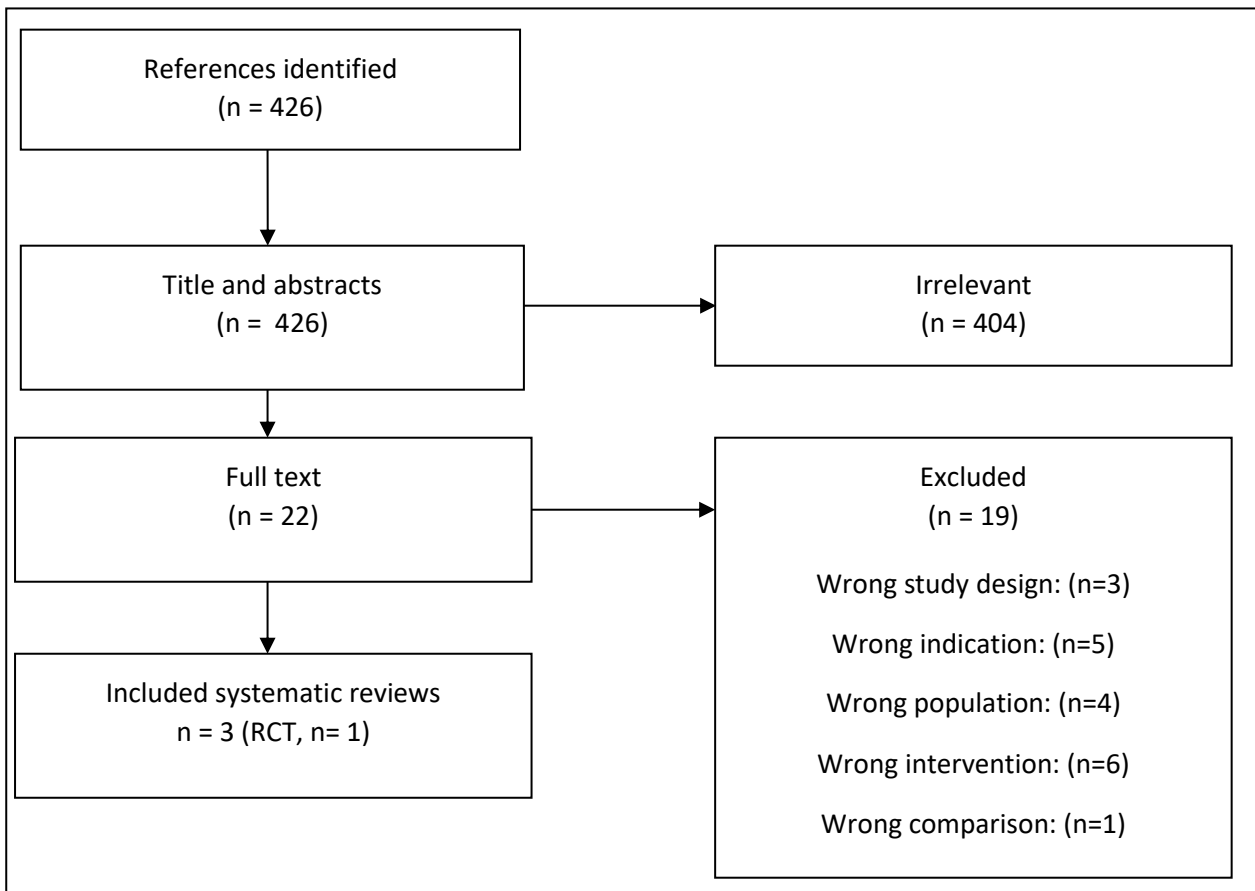


**Fig. 4** Flowchart, search for systematic reviews, supervised physical activity.

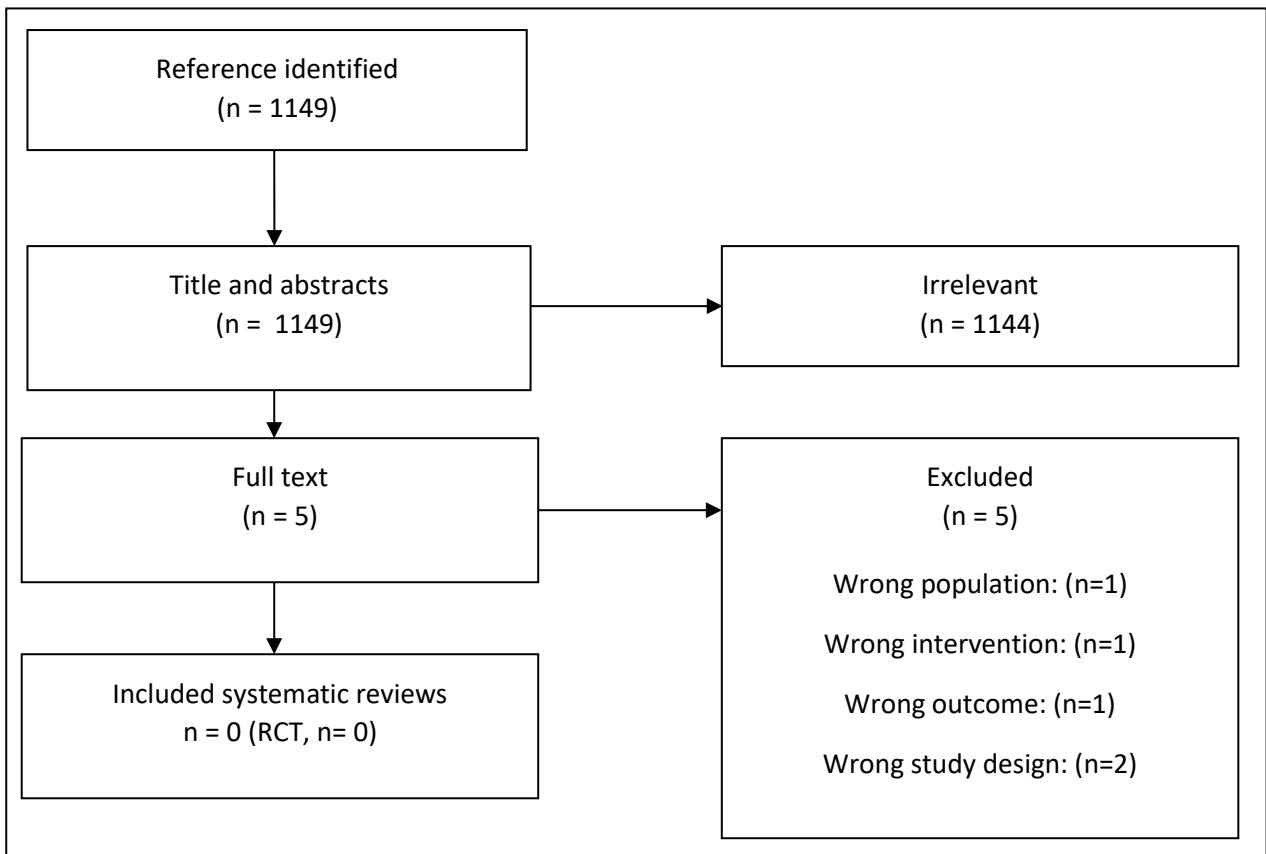


**Fig. 5** Flowchart, search for systematic reviews, psychological treatment.

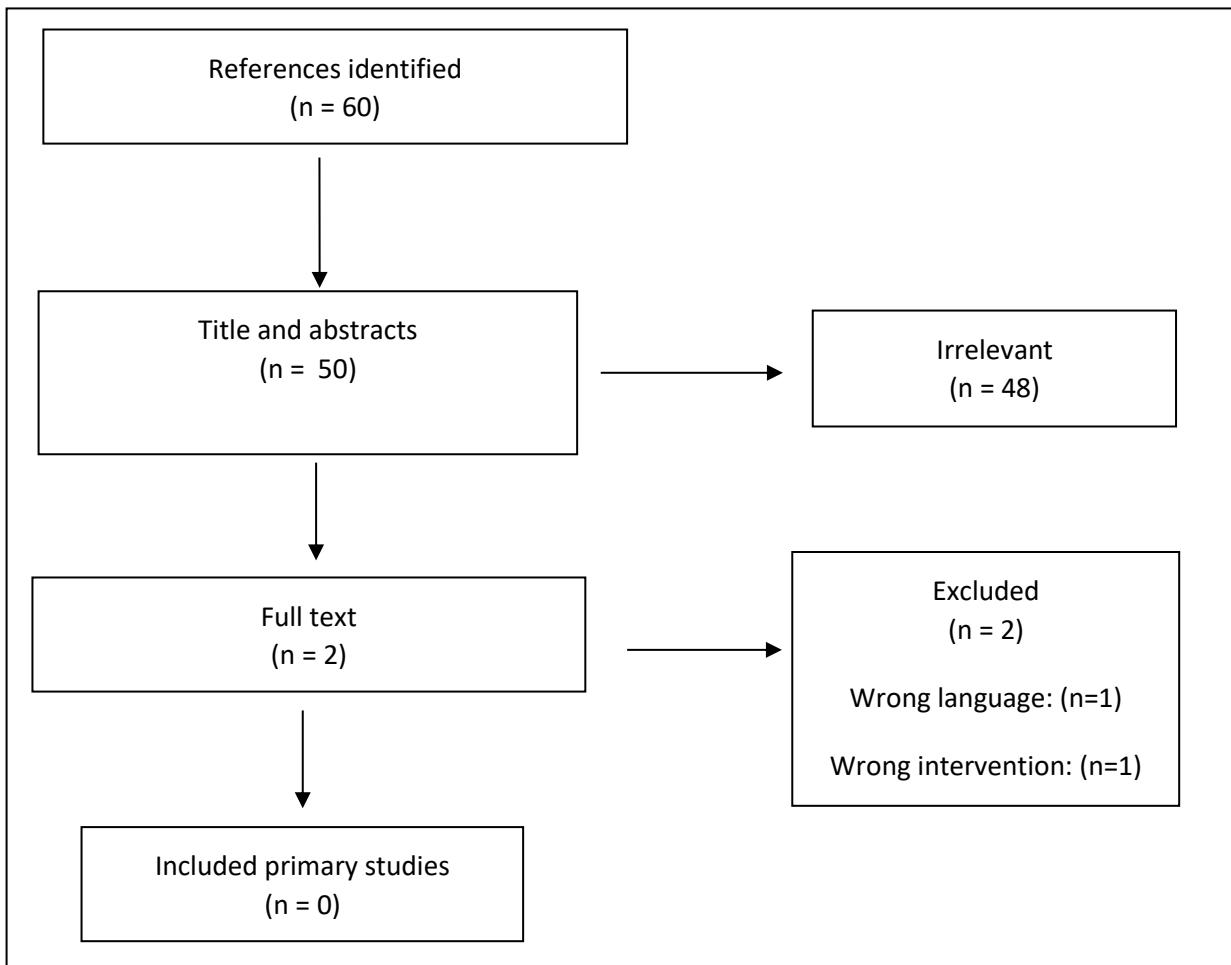




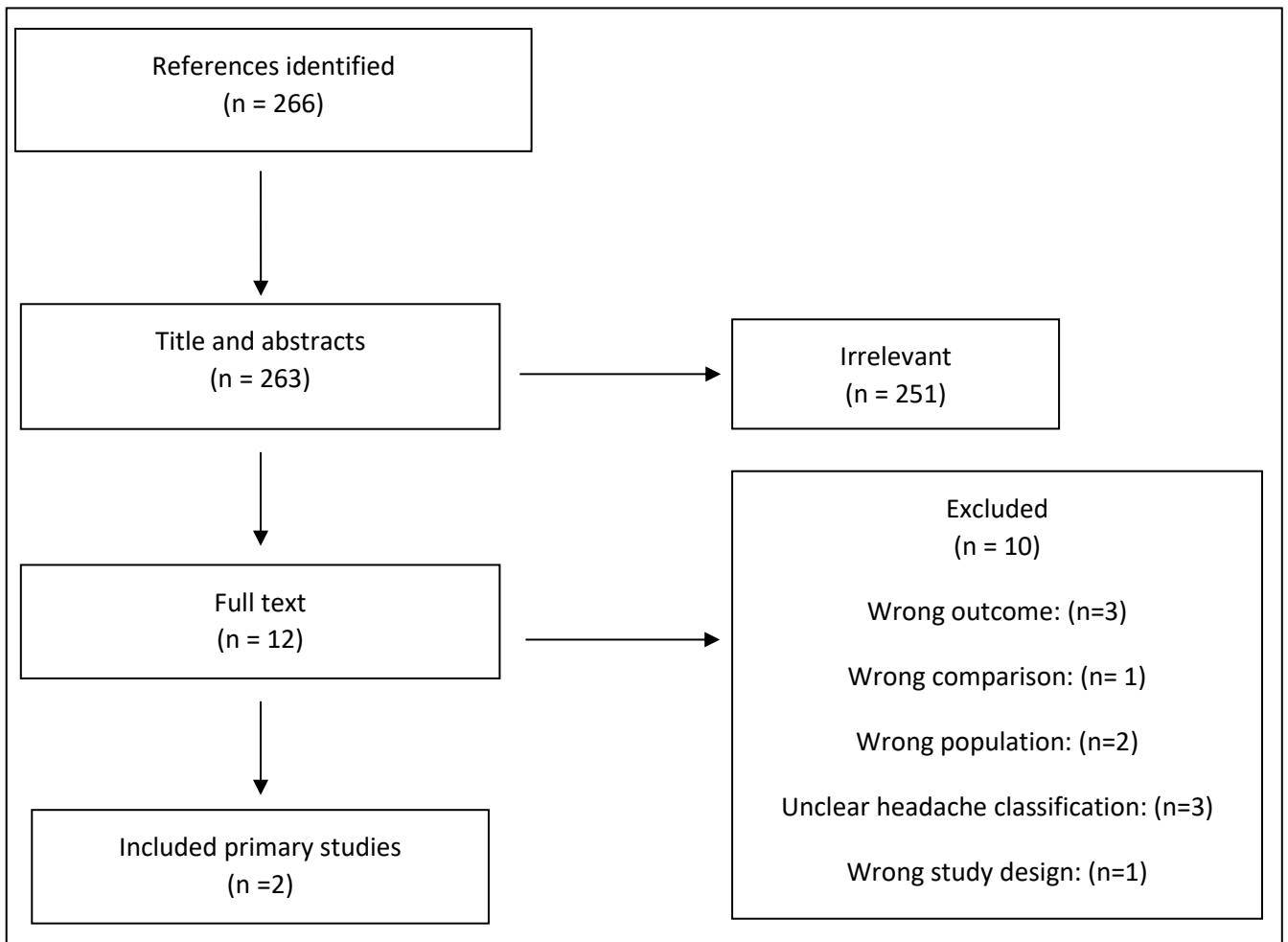
**Fig. 6** Flowchart, search for systematic reviews, acupuncture.



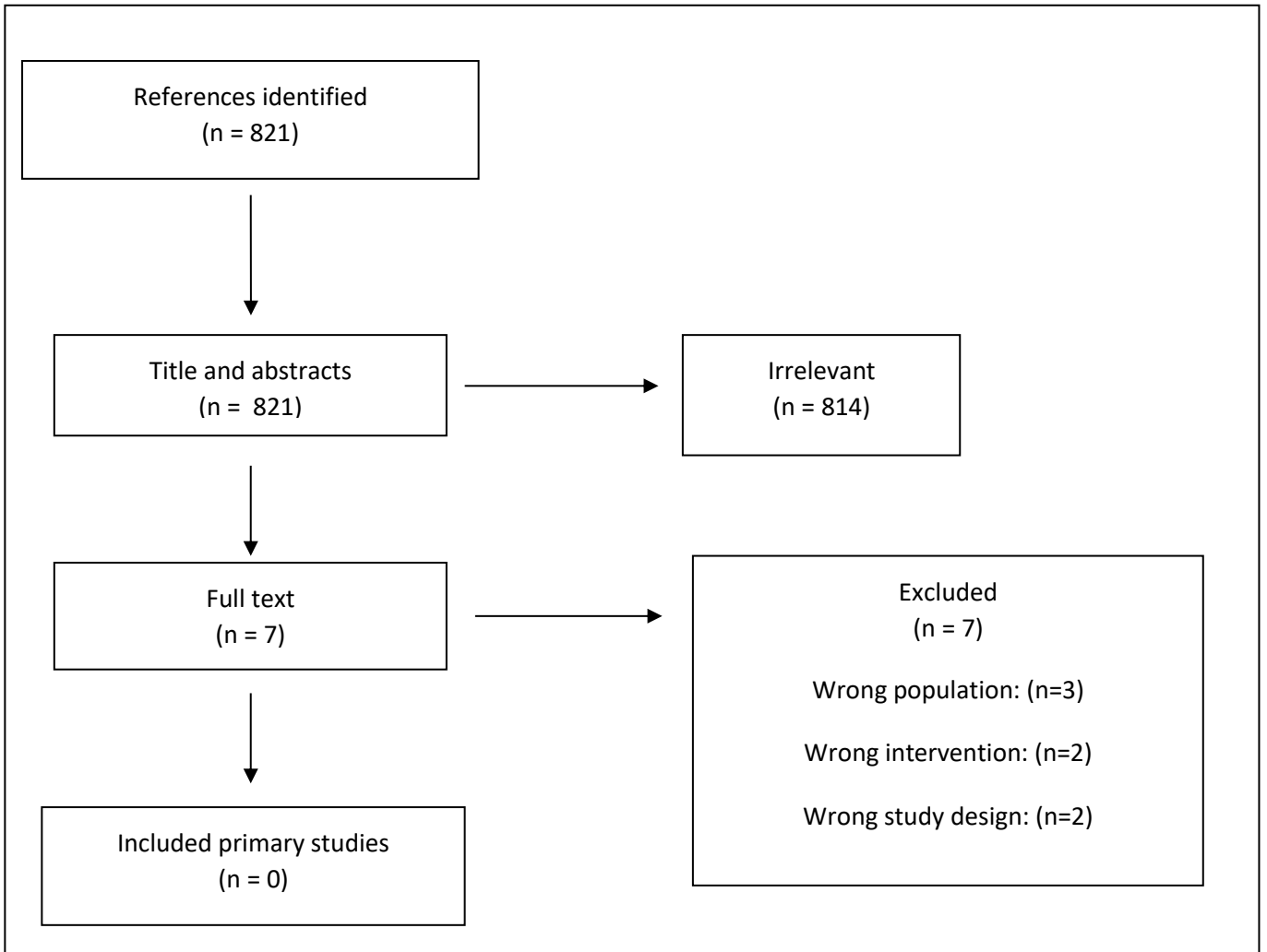
**Fig. 7** Flowchart, search for systematic reviews, patient education.



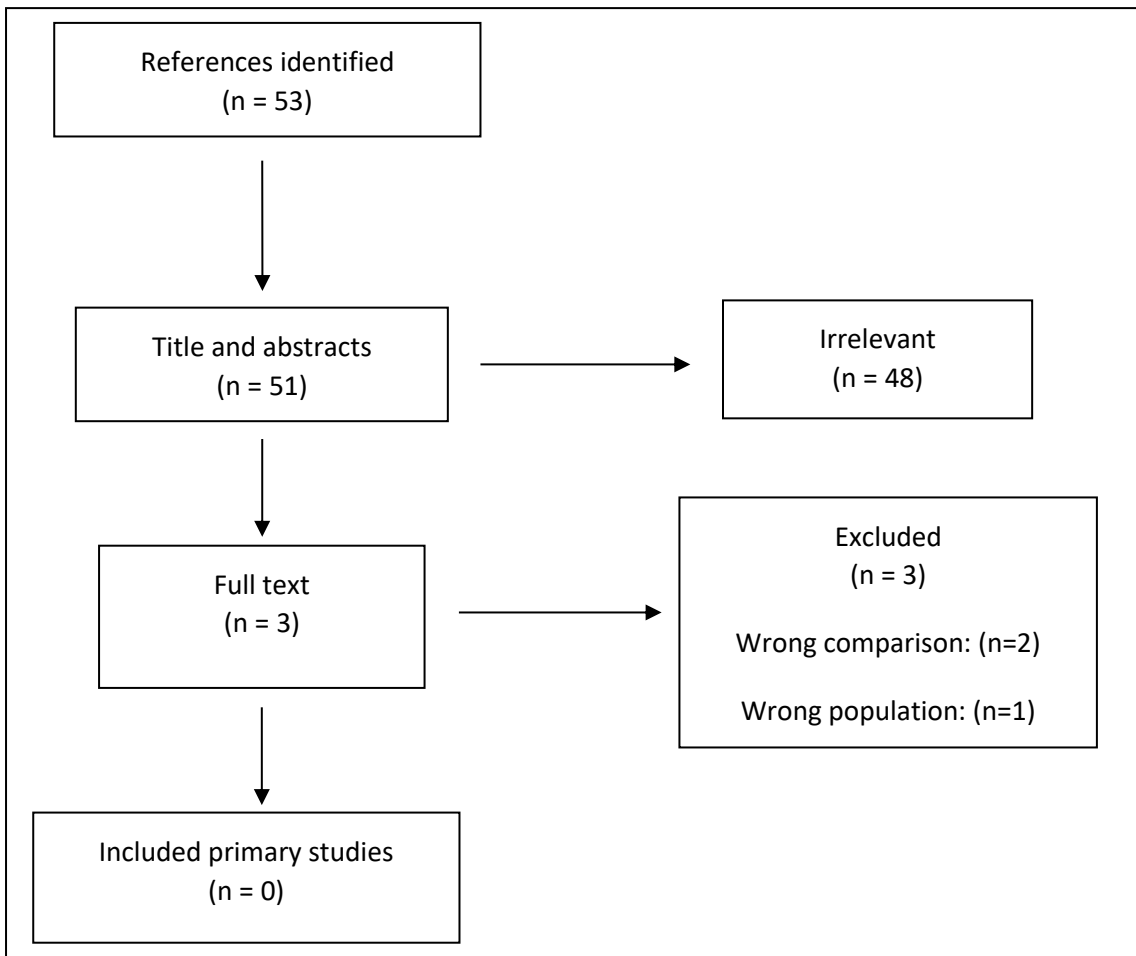
**Fig. 8** Flowchart, search for primary studies, manual joint mobilisation techniques.



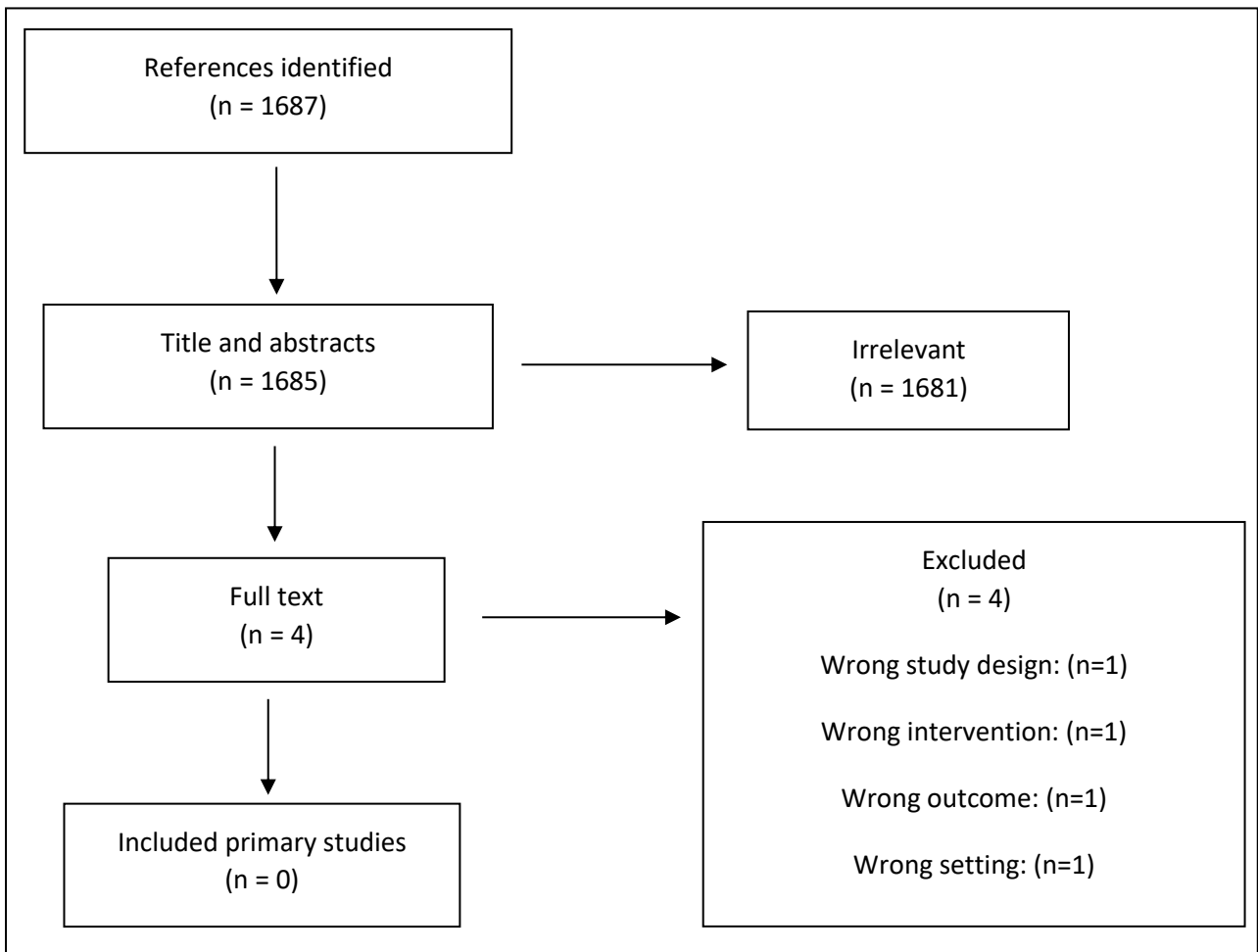
**Fig. 9** Flowchart, search for primary studies, supervised physical activity.



**Fig. 10** Flowchart, search for primary studies, psychological treatment.

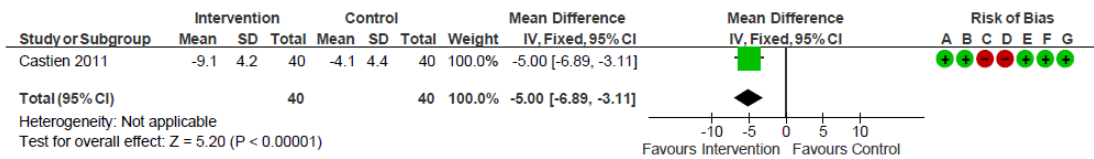


**Fig. 11** Flowchart, search for primary studies, acupuncture.



**Fig. 12** Flowchart, search for primary studies, patient education.

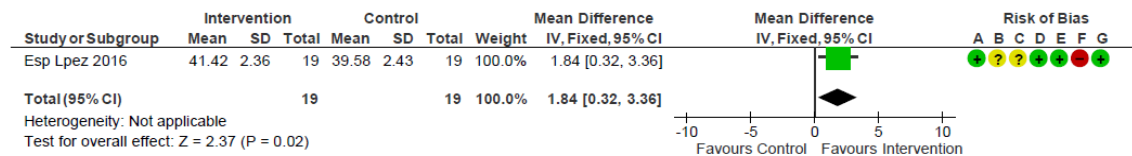
### Headache frequency, follow-up



#### Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

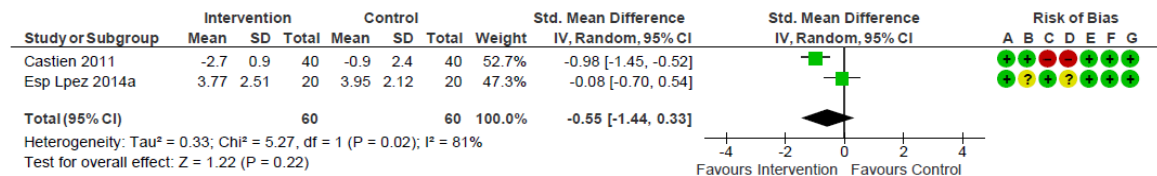
### Quality of life, follow-up



#### Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

### Headache intensity, end of treatment

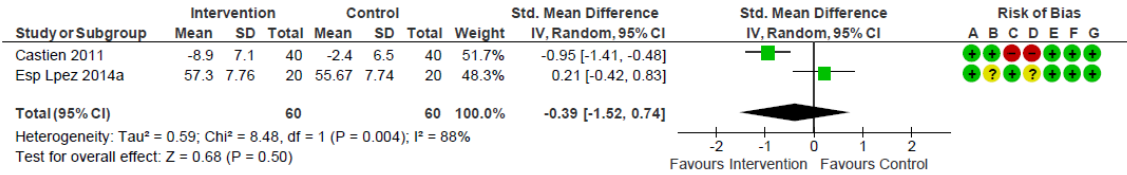


#### Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias



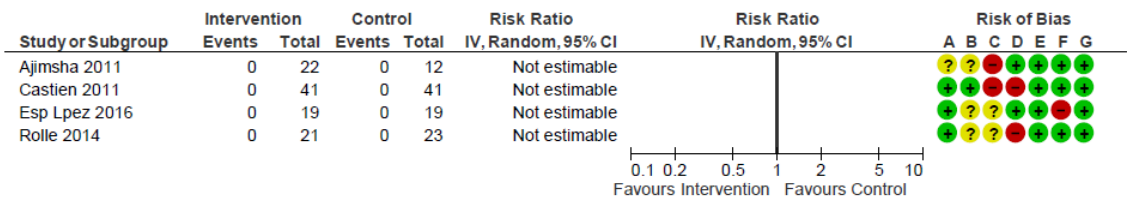
Functioning, end of treatment



Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Serious adverse events, end of treatment

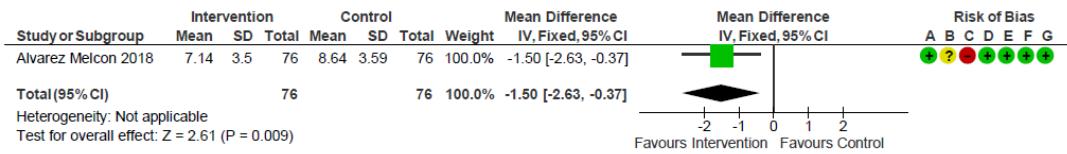


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Fig. 13 Meta-analyses of manual joint mobilisation techniques, secondary outcomes.

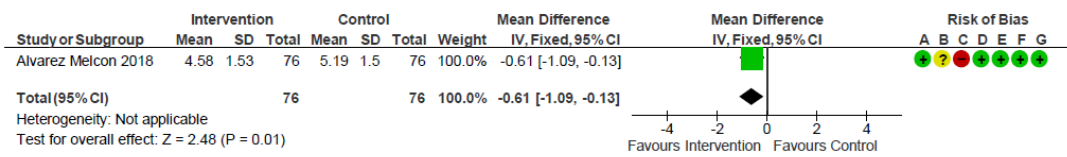
### Headache frequency, follow-up



#### Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

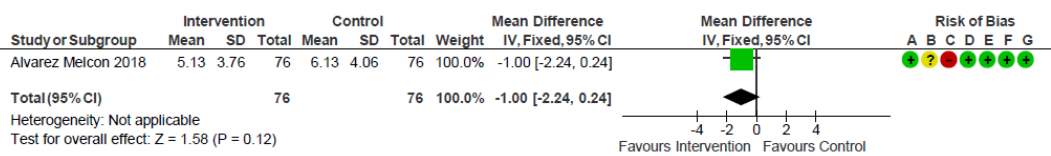
### Headache intensity, end of treatment



#### Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

### Acute medication intake in days, end of treatment

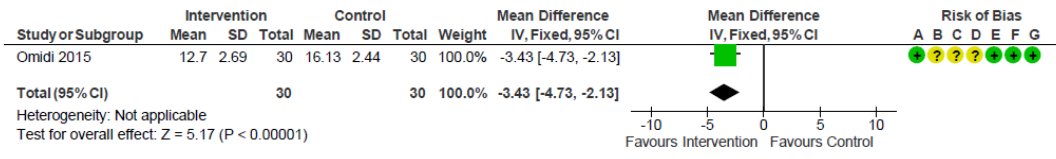


#### Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

**Fig. 14** Meta-analyses of supervised physical activity, secondary outcomes.

Stress symptoms, end of treatment



Risk of bias legend

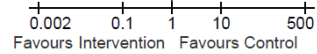
- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

**Fig. 15** Meta-analyses of psychological treatment, secondary outcomes.

Serious adverse events, end of treatment

Study or Subgroup	Intervention		Control		Weight	Risk Ratio	Risk Ratio	Risk of Bias						
	Events	Total	Events	Total		IV, Random, 95% CI	IV, Random, 95% CI	A	B	C	D	E	F	G
Jena 2008	0	1613	0	1569		Not estimable		+	?	?	?	?	+	+
<b>Total (95% CI)</b>		<b>1613</b>		<b>1569</b>		<b>Not estimable</b>								
Total events	0		0											

Heterogeneity: Not applicable  
 Test for overall effect: Not applicable

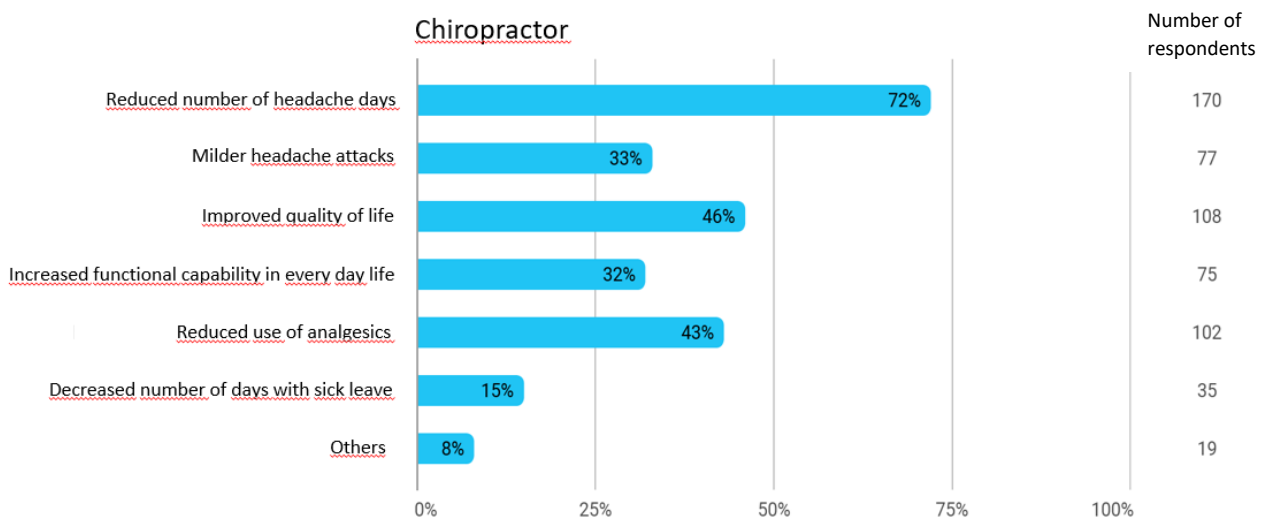


Risk of bias legend

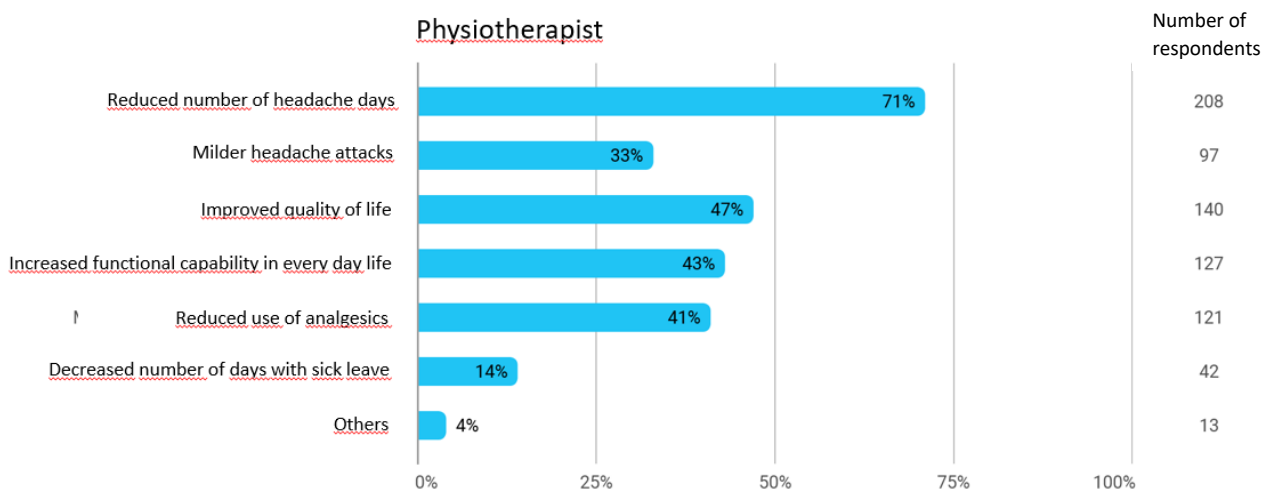
- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

**Fig. 16** Meta-analyses of acupuncture, secondary outcomes.

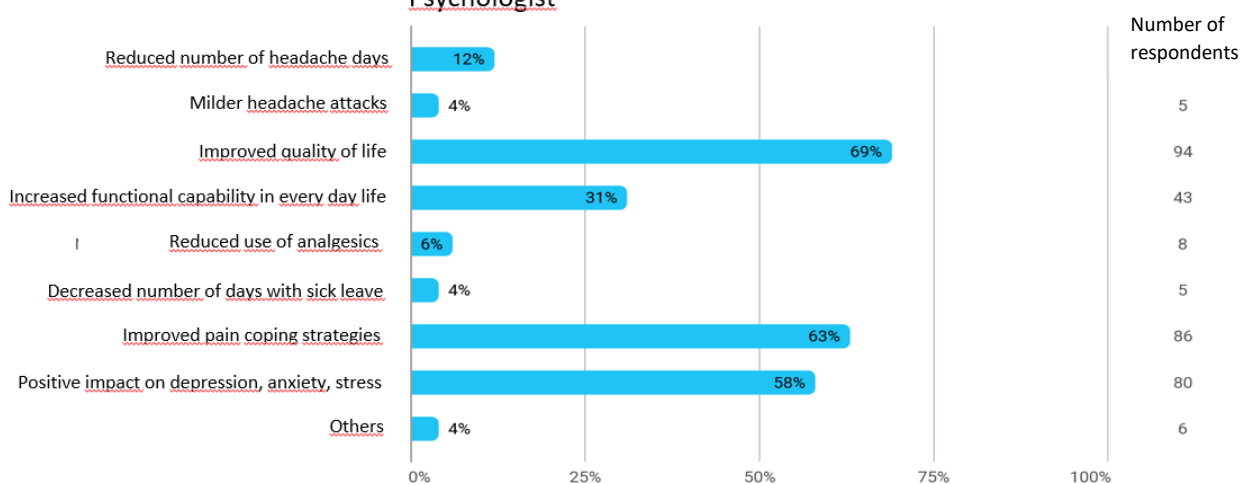
### Chiropractor

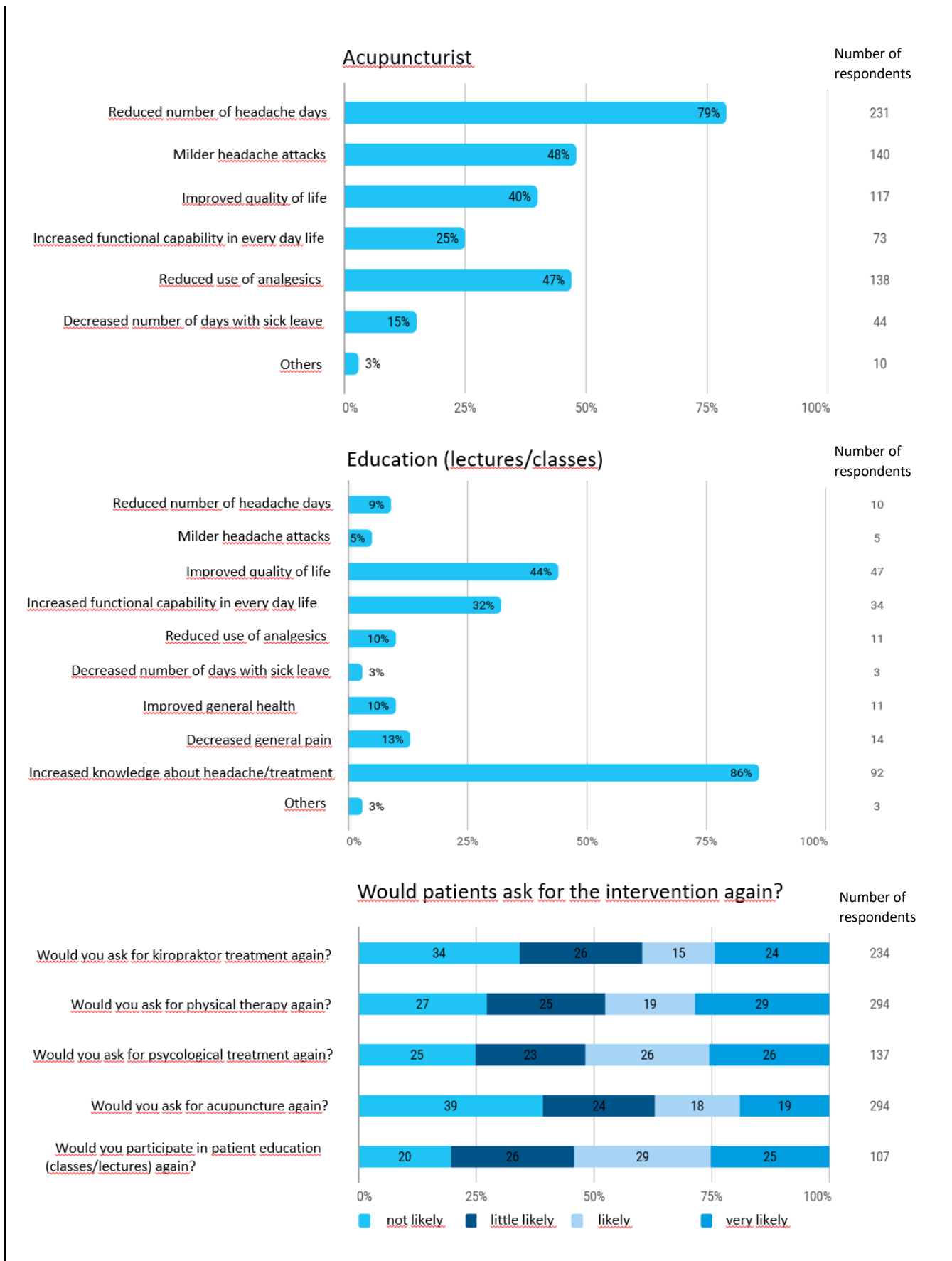


### Physiotherapist



### Psychologist





**Fig. 17** Survey of patients' expectations for treatment effects in chiropractor, physiotherapist, psychologist, acupuncturist, and education (lectures/classes), and whether patients would ask for these interventions again.