Appendix 4: Quality Appraisal

4.1 Cross-sectional Studies

Cross Sectional Tool	Sampling						Measurement			Statistical Analysis				Total Points	Maximum Points	Score	Quality
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13				
Aarts, 2012	0	1	1	1	1	N/A	1	0	1	1	1	1	1	10	14	0.71	High-moderate
Ahmed, 2014	0	2	1	N/A	1	N/A	1	0	0	1	0	1	0	7	12	0.58	Low-moderate
Alghamdi, 2016	0	2	1	N/A	1	N/A	1	0	1	1	1	1	1	10	12	0.83	Strong
Allin, 2013	1	1	N/A	N/A	1	N/A	1	1	0	1	N/A	N/A	0	6	9	0.67	High-moderate
Armstrong, 2011	0	0	1	N/A	1	N/A	0	0	1	1	1	1	0	6	12	0.50	Weak
Banihashemi, 2009	0	2	1	N/A	1	N/A	1	0	0	1	1	1	1	9	12	0.75	High-moderate
Baselyous, 2019	0	1	N/A	1	2	N/A	1	0	1	0	N/A	N/A	0	6	11	0.55	Low-moderate
Beauséjour, 2015	0	2	1	N/A	1	1	0	0	0	1	1	1	1	9	13	0.69	High-moderate
Bello, 2019	0	1	1	1	2	N/A	1	0	1	1	1	0	1	10	14	0.71	High-moderate
Bernier, 2018	0	2	1	1	N/A	N/A	1	0	0	1	0	0	1	7	12	0.54	Low-moderate
Beyea, 2018	0	2	1	1	N/A	N/A	1	0	0	1	1	1	1	9	12	0.69	High-moderate
Birk-Urovitz, 2017	1	2	1	N/A	1	N/A	1	1	0	1	1	1	0	10	12	0.83	Strong
Black, 2018	0	1	1	1	N/A	N/A	1	0	1	1	1	0	0	7	12	0.58	Low-moderate
Bonafide, 2020	0	1	1	1	N/A	N/A	1	1	1	1	1	1	1	10	12	0.83	Strong
Booth, 2018	0	2	1	1	1	N/A	1	0	0	1	1	1	0	9	13	0.69	High-moderate
Bouck, 2018	0	2	1	1	1	N/A	1	0	0	1	1	1	0	9	14	0.64	Low-moderate
Bouck,2019	0	2	1	1	1	N/A	1	0	0	1	1	1	1	10	13	0.77	High-moderate
Brown, 2017	0	1	1	1	N/A	N/A	1	0	0	1	N/A	N/A	0	5	11	0.45	Weak
Brundage, 2013	1	2	1	N/A	1	N/A	1	0	1	1	1	1	1	11	12	0.92	Strong
Chin, 2016	0	2	1	N/A	1	N/A	1	1	1	1	1	1	0	10	12	0.83	Strong

Cross Sectional Tool	Sampling						Measurement			Statistical Analysis							
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Total Points	Maximum Points	Score	Quality
CIHI, 2009	1	2	0	1	1	1	0	0	0	1	1	1	1	10	15	0.67	Low-moderate
CIHI, 2011	0	2	0	0	1	N/A	1	0	0	1	0	0	0	5	14	0.36	Weak
CIHI, 2014	0	2	0	N/A	1	N/A	1	0	0	1	N/A	0	0	5	11	0.45	Weak
CIHI, 2017	0	1	0	0	1	N/A	1	0	0	1	0	0	1	5	12	0.42	Weak
CIHI, 2018	0	2	0	N/A	1	N/A	1	0	0	1	1	1	0	7	12	0.58	Low-moderate
Clemens, 2016	0	2	1	1	N/A	N/A	1	0	0	1	N/A	N/A	1	7	11	0.64	Low-moderate
Cohen, 2019	0	1	1	1	0	N/A	1	0	0	1	1	1	0	7	14	0.50	Low-moderate
CPAC, 2017	0	2	0	N/A	1	N/A	1	0	0	1	N/A	0	0	5	11	0.45	Weak
Diamant, 2019	0	1	1	1	1	N/A	1	0	0	1	1	1	1	9	14	0.64	Low-moderate
Eddy, 2013	1	2	N/A	N/A	1	N/A	1	0	0	1	N/A	N/A	0	6	9	0.67	High-moderate
Emery, 2013	0	1	N/A	N/A	1	N/A	1	0	1	N/A	N/A	N/A	0	4	8	0.5	Weak
Findlay, 2010	0	2	1	N/A	1	N/A	1	0	0	1	1	0	0	7	12	0.58	Low-moderate
Fortin, 2014	0	0	1	N/A	1	0	0	0	0	1	N/A	N/A	0	3	11	0.27	Weak
Gagnon, 2020	0	1	1	1	1	N/A	1	0	0	1	1	1	0	8	14	0.57	Low-moderate
Gasmi 2017	0	1	1	1	N/A	1	1	0	0	1	0	1	1	8	13	0.62	Weak
Gill, 2017	0	2	1	N/A	1	N/A	1	0	1	1	N/A	1	1	9	11	0.82	Strong
Greenberg, 2016	0	1	N/A	N/A	1	N/A	1	0	0	1	N/A	N/A	0	4	9	0.44	Weak
Gupta, 2012	0	0	N/A	N/A	1	1	0	0	0	1	N/A	1	0	4	11	0.36	Weak
Guttmann, 2011	0	2	0	N/A	1	N/A	1	0	0	1	N/A	0	1	6	11	0.55	Low-moderate
Harmouch, 2018	0	1	1	1	0	1	0	0	1	1	1	1	0	8	15	0.53	Low-moderate
Hinther, 2016	0	2	1	N/A	1	N/A	1	0	0	1	1	N/A	0	7	11	0.64	Low-moderate
HQO, 2011	0	1	0	0	1	0	1	0	0	1	0	0	0	4	15	0.27	Weak
Iaboni, 2019	0	2	1	1	1	N/A	1	0	1	1	1	0	0	9	14	0.64	Low-moderate
Kandalam, 2020	0	2	N/A	1	0	N/A	1	0	1	1	N/A	N/A	N/A	6	10	0.60	Low-moderate
Kapral, 2011	1	2	1	N/A	1	N/A	1	1	0	1	0	0	1	9	12	0.75	High-moderate

Cross Sectional Tool	Sampling						Measurement			Statistical Analysis				Total Points	Maximum Points	Score	Quality
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13				
Khadilkar, 2014	0	2	N/A	N/A	1	N/A	1	1	0	1	N/A	1	0	7	10	0.70	High-moderate
Kirkham, 2015	0	1	1	1	1	N/A	1	0	1	1	1	1	0	9	14	0.64	Low-moderate
Kirkham, 2016	0	2	1	1	1	N/A	1	0	0	1	1	1	0	9	14	0.64	Low-moderate
Landry, 2011	0	1	1	1	N/A	N/A	1	1	0	1	1	1	1	9	12	0.75	High-moderate
Liddy, 2012	1	2	1	N/A	1	N/A	1	1	0	1	1	1	0	10	12	0.83	Strong
Marin, 2020	0	2	1	1	2	N/A	1	0	0	1	1	0	0	9	12	0.75	High-moderate
McAlister, 2018	0	1	1	1	1	N/A	1	0	0	1	1	1	0	8	14	0.57	Low-moderate
McCracken, 2017	1	1	1	1	1	N/A	1	0	0	1	1	1	1	10	14	0.71	High-moderate
McDonald, 2012	0	1	1	N/A	1	1	0	0	1	1	1	1	0	8	13	0.62	Low-moderate
McDonald, 2011	0	1	1	N/A	1	1	0	0	0	1	1	1	0	7	13	0.54	Low-moderate
McKenna, 2015	0	2	1	N/A	1	N/A	1	0	0	1	0	1	0	7	12	0.58	Low-moderate
McKinnon, 2019	0	1	1	1	1	N/A	1	0	0	1	1	1	0	8	14	0.57	Low-moderate
Morgan, 2016	0	1	N/A	N/A	1	N/A	1	0	0	N/A	N/A	N/A	0	3	8	0.38	Weak
Olson, 2014	0	2	1	1	1	N/A	1	0	0	1	1	1	0	9	14	0.64	Low-moderate
Panju, 2011	0	1	N/A	N/A	1	N/A	1	1	0	1	N/A	N/A	0	5	9	0.56	Low-moderate
Pasricha, 2018	0	2	1	1	0	N/A	1	0	0	1	0	0	0	6	14	0.43	Weak
Pendrith, 2017	0	1	1	1	N/A	N/A	1	0	1	1	1	1	0	8	12	0.67	High-moderate
Remfry, 2015	0	1	1	1	1	N/A	1	1	0	1	1	1	0	9	14	0.64	Low-moderate
Riddell, 2017	0	2	1	1	0	N/A	1	0	1	1	1	1	0	9	14	0.64	Low-moderate
Rigby, 2017	0	1	1	N/A	1	N/A	1	0	0	1	1	1	0	7	12	0.58	Low-moderate
Roux, 2020	0	2	1	1	2	N/A	1	0	0	1	1	1	0	11	12	0.92	Strong
Sauro 2019	0	1	1	1	2	1	1	1	1	1	1	1	0	12	15	0.80	Strong

Cross Sectional Tool	Sampling						Measurement			Statistical Analysis							
Author, Year	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Total Points**	**Maximum Points**	**Score**	**Quality**
Shurrab, 2017	0	1	1	N/A	1	N/A	1	0	0	1	1	1	0	7	12	0.58	Low-moderate
Silverman, 2017	0	1	1	N/A	1	N/A	1	0	0	1	1	1	0	7	12	0.58	Low-moderate
Simos, 2015	0	2	1	N/A	1	N/A	1	0	0	1	1	1	1	9	12	0.75	High-moderate
Singer, 2018	0	2	1	1	1	N/A	1	0	0	1	1	1	1	10	14	0.71	High-moderate
Spradbrow, 2016	0	1	1	N/A	1	N/A	1	1	0	1	1	1	0	8	12	0.67	High-moderate
Srigley, 2013	0	1	N/A	N/A	1	N/A	1	0	0	N/A	N/A	N/A	0	3	8	0.38	Weak
Symonds, 2018	0	2	1	1	1	N/A	1	0	1	1	1	1	0	10	14	0.71	High-moderate
Taggar, 2016	0	2	1	N/A	1	N/A	1	0	0	1	1	0	0	7	12	0.58	Low-moderate
Teoh, 2013	0	1	1	1	1	0	1	0	0	1	1	1	1	9	15	0.60	Low-moderate
Thomas, 2020	0	2	1	1	N/A	N/A	1	0	0	1	1	1	1	9	11	0.82	Strong
Tinmouth, 2016	0	1	1	N/A	1	N/A	1	1	0	1	1	0	1	8	12	0.67	High-moderate
Trenaman, 2018	0	1	1	1	1	N/A	1	0	0	1	1	1	0	8	14	0.57	Low-moderate
Verma, 2020	0	1	1	1	1	N/A	1	1	1	1	1	1	1	11	12	0.92	Strong
Wanis, 2013	0	1	1	N/A	1	N/A	1	0	0	1	N/A	N/A	0	5	10	0.50	Weak
Wirth, 2020	0	1	1	1	1	N/A	1	0	0	1	1	0	1	9	12	0.75	High-moderate
Wong, 2017	0	1	1	1	1	0	1	0	0	1	1	0	0	7	15	0.47	Weak

Notes:
Q1: Probabilistic sample used (max 1)
Q2: Representative (max 2 points)
Q3: Sample size appropriate for power (max 1)
Q4: Sample drawn >1 site (max 1)
Q5: Groups in the study (max 2 points)
Q6: Response rate >50% (max 1)
Q7: DV measurement (max 1)
Q8: DV reliability (max 1)
Q9: DV validity (max 1)
Q10: Appropriate tests used (max 1)
Q11: p values reported (max 1)
Q12: CI reported (max 1)

Q13: 4. Missing data managed appropriately (max 1)

Quality Scores:
≤ 0.50=weak methodological quality
0.51-0.65=low moderate methodological quality
0.66-.079=high moderate methodological quality
 ≥.80=strong methodological quality

Appendix 4: Quality Appraisal

4.2 Case Series

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Overall Appraisal	Comments
Andrade, 2020	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	N/A	Include	Good Quality
Papastergiou, 2019	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	N/A	Include	Good Quality

Notes:
Q1: Were there clear criteria for inclusion in the case series?
Q2: Was the condition measured in a standard, reliable way for all participants included in the case series?
Q3: Were valid methods used for identification of the condition for all participants included in the case series?
Q4: Did the case series have consecutive inclusion of participants?
Q5: Did the case series have complete inclusion of participants?
Q6: Was there clear reporting of the demographics of the participants in the study?
Q7: Was there clear reporting of clinical information of the participants?
Q8: Were the outcomes or follow up results of cases clearly reported?
Q9: Was there clear reporting of the presenting site(s)/clinic(s) demographic information?
Q10: Was statistical analysis appropriate?

JBI Overall appraisal
Include
Exclude
Seek further information

Overall appraisal - modified for this review
Include: Good Quality ('Yes' >5 out of 10) = Strong methodological quality
Include: Fair Quality ('Yes' equal to or less than 5 out of 10) = Moderate methodological quality
Include: Poor Quality ('Yes' less than 5 out of 10) = Weak methodological quality

Appendix 4: Quality Appraisal

4.3 Quasi Experimental

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Overall Appraisal	Comments
Arbel, 2016	Yes	Yes	Yes	No	Yes	N/A	N/A	Yes	Yes	Include	Good Quality
DeSilva, 2018	Yes	No	Yes	No	Yes	N/A	Yes	N/A	Yes	Include	Fair Quality
Henderson, 2020	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	N/A	Include	Good Quality
Irfan, 2015	Yes	Unclear	Unclear	Yes	Yes	Unclear	Yes	Yes	Unclear	Include	Fair Quality
Keller, 2019	Yes	No	Yes	No	Yes	N/A	Yes	No	Yes	Include	Fair Quality
Ma, 2017	Yes	Yes	Yes	No	Yes	N/A	N/A	Yes	Yes	Include	Good Quality
MacMillan, 2018	Yes	No	Yes	Yes	Yes	N/A	Yes	N/A	Yes	Include	Good Quality
Sun, 2015	Yes	No	Unclear	Yes	Yes	N/A	Yes	N/A	Yes	Include	Fair Quality
Walker, 2020	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Include	Good Quality
Welk, 2018	Yes	No	No	No	Yes	Unclear	No	N/A	Yes	Include	Poor Quality

Notes:

Q1: The 'cause' and the 'effect' in the study was clear (i.e. there was no confusion about which variable comes first)

Q2: The participants included in any comparisons were similar

Q3: The participants included in any comparisons received similar treatment/care, other than the exposure or intervention of interest

Q4: There was a control group

Q5: There were multiple measurements of the outcome both pre and post the intervention/exposure

Q6: There was follow up complete and the differences between groups were adequately described and analyzed

Q7: Outcomes of participants included in any comparison were measured in the same way

Q8: Outcomes were measured in a reliable way

Q9: Appropriate statistical analysis was used

JBI Overall appraisal

Include

Exclude

Seek further information

Overall appraisal - modified for this review

Include: Good Quality ('Yes' >5 out of 10) = Strong methodological quality

Include: Fair Quality ('Yes' equal to or less than 5 out of 10) = Moderate methodological quality

Include: Poor Quality ('Yes' less than 5 out of 10) = Weak methodological quality

Appendix 4: Quality Appraisal
4.4 Cohort/Before-After

Cohort/Before-After Tool	Sample			Design	Control of Confounders		Data Collection and Outcome Measurement			Statistical Analysis				Drop-out				
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Total Points	Maximum Points	Score	Quality
Aaron, 2017	1	1	1	N/A	1	N/A	1	0	0	1	1	1	0	1	8	14	0.57	Low-moderate
Abdul-Razzak, 2019	0	0	1	N/A	N/A	N/A	1	0	0	1	1	0	1	0	5	12	0.42	Weak
Alkhiari, 2018	0	1	1	N/A	N/A	N/A	1	0	0	1	1	0	0	1	6	12	0.50	Weak
Andrew, 2018	0	1	1	1	1	0	1	0	0	1	1	1	0	0	8	18	0.44	Weak
Assmus, 2019	0	1	1	0	2	2	1	0	0	1	1	1	0	0	10	18	0.56	Low-moderate
Bainey, 2019	0	1	2	2	2	0	1	0	1	1	1	1	N/A	0	12	17	0.71	High-moderate
Barker, 2018	0	1	2	N/A	N/A	N/A	1	1	1	1	0	1	1	1	10	12	0.83	Strong
Bellai-Dussault, 2020	0	1	2	2	2	0	1	0	1	1	0	N/A	0	0	10	17	0.59	Low-moderate
Bhatia, 2017	0	0	1	N/A	N/A	N/A	1	0	0	1	1	1	1	0	6	12	0.5	Weak
Bhatt, 2018	0	0	1	N/A	1	N/A	1	0	0	1	1	1	1	0	7	14	0.5	Weak
Bisch, 2018	0	1	2	2	1	2	1	0	0	1	1	1	0	0	12	18	0.67	High-moderate
Bischof, 2015	0	1	1	N/A	1	N/A	1	0	0	1	1	1	0	N/A	7	13	0.54	Low-moderate
Bowker, 2017	1	0	1	N/A	N/A	N/A	1	0	0	1	1	1	0	0	6	12	0.5	Weak
Brimble, 2020	0	1	1	1	1	0	1	0	1	1	1	1	1	0	10	18	0.56	Low-moderate
Chan, 2019	0	0	1	N/A	N/A	N/A	1	0	0	1	1	1	1	0	7	12	0.58	Low-moderate
Chen, 2019	0	0	1	N/A	N/A	N/A	1	0	0	1	0	0	1	0	5	12	0.42	Weak
Cheng, 2019	0	1	1	1	2	2	1	0	1	1	1	1	0	0	13	18	0.72	High-moderate

Cohort/Before-After Tool	Sample			Design	Control of Confounders		Data Collection and Outcome Measurement			Statistical Analysis				Drop-out				
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Total Points	Maximum Points	Score	Quality
Donovan, 2016	0	0	1	N/A	N/A	N/A	1	0	0	1	1	1	1	0	7	12	0.58	Low-moderate
Elegbede, 2020	0	1	1	0	2	0	1	0	1	1	1	1	0	0	9	18	0.50	Weak
Eskicioglu, 2015	0	1	1	N/A	1	0	1	0	0	1	1	1	0	N/A	7	15	0.47	Weak
Falk, 2019	0	0	1	N/A	N/A	N/A	1	0	0	1	0	0	0	0	3	12	0.25	Weak
Feldman, 2013	0	1	2	N/A	N/A	N/A	0	0	0	1	1	1	1	1	8	12	0.67	High-moderate
Ferguson, 2019	0	1	1	0	1	0	1	0	1	1	1	0	0	0	7	18	0.39	Weak
Gotto, 2015	0	0	1	N/A	N/A	N/A	1	0	0	1	1	1	0	0	5	12	0.42	Weak
Gotto, 2016	0	1	2	N/A	N/A	N/A	1	0	0	1	1	1	0	N/A	7	11	0.64	Low-moderate
Greiver, 2020	0	1	1	2	0	0	1	0	1	1	1	0	1	0	9	18	0.50	Weak
Hall, 2010	0	0	2	N/A	N/A	N/A	1	0	0	1	1	0	1	N/A	6	11	0.55	Low-moderate
Hall, 2012	1	0	2	N/A	N/A	N/A	1	0	0	1	1	1	0	N/A	7	11	0.64	Low-moderate
Hall, 2015	0	1	2	N/A	N/A	N/A	1	0	0	1	0	0	0	N/A	5	11	0.45	Weak
Hall, 2016	0	0	2	N/A	N/A	N/A	1	0	0	1	0	0	0	N/A	4	11	0.36	Weak
Hall, 2017	1	N/A	2	N/A	N/A	N/A	1	0	0	N/A	N/A	N/A	0	N/A	4	7	0.57	Low-moderate
Hall, 2017	0	0	2	N/A	N/A	N/A	1	0	0	1	0	0	0	N/A	4	11	0.36	Weak
Harris, 2013	1	1	1	1	1	2	1	0	0	1	1	0	0	N/A	10	17	0.59	Low-moderate
Hayward, 2020	0	1	1	1	1	2	1	0	1	1	1	1	0	1	12	18	0.67	Low-moderate
Ho, 2017	0	1	2	N/A	N/A	N/A	1	1	0	1	1	1	1	N/A	9	11	0.82	Strong
Hsu, 2020	0	1	1	0	2	2	1	0	1	1	0	1	1	0	11	18	0.61	Low-moderate
Kahn, 2012	0	N/A	1	N/A	N/A	N/A	1	0	0	N/A	N/A	N/A	N/A	1	3	7	0.43	Weak

Cohort/Before-After Tool	Sample			Design	Control of Confounders		Data Collection and Outcome Measurement			Statistical Analysis				Drop-out				
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Total Points	Maximum Points	Score	Quality
Khoury, 2019	0	1	1	1	2	0	1	0	1	1	N/A	N/A	0	0	8	16	0.50	Weak
Kurdyak, 2017	0	1	2	N/A	N/A	N/A	1	1	0	1	1	1	0	N/A	8	11	0.73	High-moderate
Lake, 2020	0	1	1	0	1	2	1	0	0	1	0	1	0	0	8	18	0.44	Weak
Lee, 2011	0	0	2	N/A	N/A	N/A	1	0	0	1	N/A	0	1	N/A	5	10	0.5	Weak
Maclagan, 2017	0	1	2	N/A	N/A	N/A	1	0	0	1	1	1	0	N/A	7	11	0.64	Low-moderate
Martel, 2018	0	0	1	N/A	N/A	N/A	1	0	0	1	0	1	0	0	4	12	0.33	Weak
Martin, 2018	0	0	2	2	1	2	1	0	0	1	1	1	1	0	12	18	0.67	High-moderate
Martin, 2015	0	1	1	1	0	0	1	0	0	1	1	1	0	N/A	7	17	0.41	Weak
McBride, 2019	0	0	1	N/A	N/A	N/A	1	0	0	1	0	0	0	0	4	12	0.33	Weak
Mohareb ,2015	0	1	2	N/A	N/A	N/A	1	1	1	1	1	0	1	N/A	9	11	0.82	Strong
Morgen, 2015	1	1	2	N/A	N/A	N/A	1	0	0	1	0	1	0	N/A	7	11	0.64	Low-moderate
Pardhan, 2019	0	0	2	N/A	N/A	N/A	1	0	0	1	0	0	0	N/A	4	11	0.36	Weak
Pelletier, 2016	0	0	1	N/A	1	N/A	0	0	0	1	1	1	1	1	7	14	0.5	Weak
Plitt, 2016	0	1	2	N/A	N/A	N/A	1	0	0	1	1	1	1	N/A	8	11	0.73	High-moderate
Price, 2019	0	0	2	N/A	1	N/A	1	1	0	1	1	1	0	0	8	14	0.57	Low-moderate
Redwood, 2019	0	1	1	N/A	1	N/A	1	0	1	1	1	0	1	1	9	14	0.64	Low-moderate
Rowe, 2018	0	1	2	N/A	1	N/A	0	0	0	1	1	1	1	0	8	14	0.57	Low-moderate
Sadatsafvi, 2017	0	1	2	N/A	N/A	N/A	1	1	1	1	1	0	1	N/A	9	11	0.82	Strong
Sanders, 2019	0	0	1	N/A	0	N/A	1	0	0	0	1	0	1	1	5	14	0.36	Weak
Sawler, 2020	0	1	2	0	2	2	1	0	1	1	1	1	1	1	14	18	0.78	High-moderate

Cohort/Before-After Tool	Sample			Design	Control of Confounders		Data Collection and Outcome Measurement			Statistical Analysis				Drop-out				
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Total Points	Maximum Points	Score	Quality
Schuh, 2017	1	1	2	N/A	1	N/A	1	0	0	1	1	1	0	N/A	9	13	0.69	High-moderate
Scovil, 2019	0	0	1	2	1	0	1	0	0	1	1	0	0	0	7	18	0.39	Weak
Sharma, 2019	0	1	2	0	1	2	1	0	1	1	1	N/A	N/A	0	10	16	0.63	Low-moderate
Shih, 2017	0	1	1	N/A	N/A	N/A	1	1	1	1	1	0	0	N/A	7	11	0.64	Low-moderate
Siemens, 2020	0	1	2	2	1	0	1	0	1	1	1	1	0	0	11	18	0.61	Low-moderate
Silberberg, 2017	0	1	1	N/A	N/A	N/A	1	0	0	1	1	1	0	N/A	6	11	0.55	Low-moderate
Skiffington, 2020	0	1	2	0	2	2	1	0	1	1	0	1	1	0	12	18	0.67	High-moderate
Snodgrass, 2014	0	0	1	1	0	0	1	0	0	1	N/A	0	0	N/A	4	16	0.25	Weak
Solbak, 2018	0	1	2	N/A	N/A	N/A	0	0	0	1	1	1	1	N/A	7	11	0.64	Low-moderate
Somanader 2017	0	0	2	N/A	1	N/A	0	0	0	1	1	0	1	0	6	14	0.43	Weak
Soril, 2019	0	1	1	N/A	1	N/A	1	0	0	1	1	1	1	N/A	8	13	0.62	Low-moderate
Steinberg, 2020	0	1	1	2	0	2	1	0	1	1	1	1	0	1	12	18	0.67	High-moderate
Tharmaratnam (a.), 2020	0	1	1	0	2	2	1	0	1	1	1	1	0	0	11	18	0.61	Low-moderate
Vinturache, 2017	0	1	1	N/A	1	N/A	0	0	0	1	1	1	1	1	8	14	0.57	Low-moderate
Vinturache 2019	0	0	1	N/A	1	N/A	0	0	0	1	1	1	1	1	7	14	0.5	Weak
Vitale, 2020	0	1	2	1	2	2	1	0	0	1	1	1	1	0	13	18	0.72	High-moderate
Weir, 2020	0	1	2	1	1	2	1	0	0	1	0	1	0	0	10	18	0.56	Low-moderate

Cohort/Before-After Tool	Sample			Design	Control of Confounders		Data Collection and Outcome Measurement			Statistical Analysis				Drop-out				
Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Total Points	Maximum Points	Score	Quality
Wintemute, 2019	0	1	1	1	2	2	1	0	0	1	1	1	1	0	12	18	0.67	High-moderate

Notes:
Q1: Probabilistic sample used
Q2: Sample size appropriate for power
Q3: Representative (max 2 points)
Q4: Study design (max 2 points)
Q5: Comparison strategy (max 2 points)
Q6: Group comparisons (max 2 points)
Q7: Dependent variable
Q8: Reliability of dependent variable
Q9: Validity of dependent variable
Q10: Statistical test(s) appropriate
Q11: p values reported
Q12: Confidence intervals reported
Q13: Missing data managed appropriately
Q14: Attrition rate <30%

Quality Scores:
≤ 0.50=weak methodological quality
0.51-0.65=low moderate methodological quality
0.66-.079=high moderate methodological quality
 ≥.80=strong methodological quality

Appendix 4: Quality Appraisal
4.5 Randomized Controlled Trial

Author, Year	Barkun, 2013	Bhatia, 2017	Daley 2018	Kirkham, 2020	Martin (b.), 2018	Minian, 2019	Pai, 2013	Scales, 2016
1. 1) Randomized	Yes	No Information	Yes	Yes	Yes	Yes	Yes	Yes
1. 2) Concealed	Yes	No Information	Yes	Yes	Yes	Yes	Probable Yes	No Information
1. 3) Suggested problem with the randomization process	Probable No	No Information	Yes	No Information	No	No	Probable No	No
1. 4) Risk-of-bias judgement	Low	Some concerns	Some concerns	Low risk of bias	Low	Low risk of bias	Low	Some concerns
2. 1) Participants aware of assigned intervention	Probable Yes	Yes	No	Yes	No	No	Probable Yes	Probable Yes
2. 2) Carers and people delivering interventions aware of participants' assigned intervention	Probable Yes	No	Yes	Yes	No	Yes	Probable Yes	Probable Yes
2. 3) [If Y/PY/NI to 2. 1 or 2.2] Deviations from the intended intervention that arose because of the experimental context	Probable No	Yes	Probable No	Probable No	N/A	Probable No	Probable No	No information
2. 4) [If Y/PY to 2. 3)] Deviations from the intended intervention balanced between groups	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A
2.5 [If N/PN/NI to 2.4] Deviations likely affected the outcome	N/A	PY	N/A	N/A	N/A	N/A	N/A	N/A
2.6) Appropriate analysis estimated the effect of assignment to intervention	Yes	Yes	Probable No	Yes	Yes	Yes	Probable Yes	Probable Yes
2.7) [If N/PN/NI] to 2.6] There was potential for a substnatial impact (on the result) of the failure to analyse participants int eh group to which they were randomized	N/A	N/A	No Information	N/A	N/A	N/A	N/A	N/A

Author, Year	Barkun, 2013	Bhatia, 2017	Daley 2018	Kirkham, 2020	Martin (b.), 2018	Minian, 2019	Pai, 2013	Scales, 2016
2.8) Risk-of-bias judgement	Low Risk	High Risk	High Risk	Low risk of bias	Low Risk	Low risk of bias	Low Risk	Some concerns
2. 1) Participants aware of assigned intervention during the trial	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2. 2) Carers and people delivering interventions aware of participants' assigned intervention during the trial	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2. 3) [If Y/PY/NI to 2. 1 or 2.2] Important co-interventions were balanced across intervention groups	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2.4) Failures in implementing the intervention affected the outcome	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2.5) Study participants adhered to the assigned intervention regimen	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2.6) [If N/PN/NI] to 2.5 OR Y/PY/NI to 2.4] An appropriate analysis was used to estimate the effect of adhering to the intervention	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2.7) Risk-of-bias judgement	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2.8) Optional: The predicted direction of bias was due to deviations from intended interventions	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3.1) Data for this outcome was available for all, or nealy all, participants randomized	Yes	Yes	Yes	Yes	Yes	No	Probable Yes	Probable No
3.2) [If N/PN/NI/ to 3.1] There is evidence that result was not biased by missing outcome data	N/A	N/A	N/A	N/A	N/A	Probable Yes	N/A	No information

Author, Year	Barkun, 2013	Bhatia, 2017	Daley 2018	Kirkham, 2020	Martin (b.), 2018	Minian, 2019	Pai, 2013	Scales, 2016
3.3) [If N/PN/NI to 3.1] Missingness in the outcome was dependent on its true value	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No information
3.4) [If Y/PY/NI to 3.3] The proportions of missing outcome data differed between intervention groups	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No information
3.5) [If Y/PY/NI to 3.3] It was likely that missingness in the outcome depended on it true value	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Probable no
3.6) Risk-of-bias judgement	Low Risk	Low Risk	Low Risk	Low risk of bias	Low Risk	Low risk of bias	Low Risk	Some concerns
4.1) The method of measuring the outcome was inappropriate	No	No	Probable No	No	No	No	No	No
4.2) The measurement of ascertainment of the outcome differed between intervention groups	No	No	No	No	No	No	No	No
4.3) [If N/PN/NI to 4.1 and 4.2] The outcome assessors were aware of the intervention received by study participants	Probable Yes	No	Yes	Probable No	No	No	Probable Yes	No
4.4) [If Y/PY/NI to 4.3] Assessment of the outcome was influence by knowledge of intervention received	Probable No	N/A	No	N/A	N/A	N/A	Probable No	N/A
4.5) [If Y/PY/NI to 4.4] Likely that assessment of the outcome was influenced by knowledge of intervention received	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4.6) Risk-of-bias judgement	Low Risk	Low Risk	Low Risk	Low risk of bias	Low Risk	Low risk of bias	Low Risk	Low Risk

Author, Year	Barkun, 2013	Bhatia, 2017	Daley 2018	Kirkham, 2020	Martin (b.), 2018	Minian, 2019	Pai, 2013	Scales, 2016
5.1) The trial analysed in accordance with a pre-specified plan and was finalized before unblinded outcome data were available for analysis	Probable yes	Yes	Yes	Yes	Yes	Yes	Probable yes	Yes
5.2) The numerical result being assessed was likely selected, on the basis of the results, from multiple outcome measurements (e.g., scales, definitions, time points) within the outcome domain	No	No	Probable No	No	No	No	No	No
5.3) The numerical result being assessed was likely selected, on the basis of the results, multiple analyses of the data	Probable No	No	No	Probable No	No	No	Probable No	Probable No
5.4) Risk-of-bias judgement	Low Risk	Low Risk	Low Risk	Low Risk of Bias	Low Risk	Low Risk of Bias	Low Risk	Some concerns
Overall risk-of-bias judgement	Low risk of bias	High risk of bias	High risk of bias	Low Risk of Bias	Low risk of bias	Low Risk of Bias	Low risk of bias	Some concerns of bias