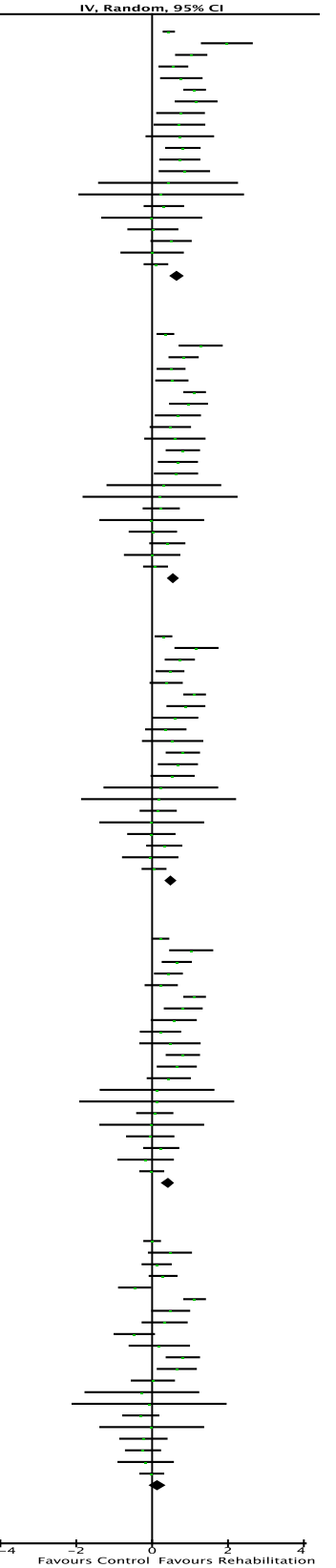
Figure 1 - Complete case analysis and sensitivity analyses using the four strategies for handling participants with missing data for continuous outcomes in a systematic review of respiratory rehabilitation in Chronic Obstructive Pulmonary Disease

Study or Subgroup	Rehabilitation Mean	Rehabilitation SD	Rehabilitation Total	Control Mean	Control SD	Control Total	Mean Difference IV, Random, 95% CI
1.1.1 Complete case analysis							
ADL–Booker 1994	0.46	0.39	34	0.02	0.13	37	0.44 [0.30, 0.58]
CRQ–Behnke 2000	1.9	0.7	15	−0.07	1.1	15	1.97 [1.31, 2.63]
CRQ–Cambach 1997	1.04	0.91	37	0.01	0.75	29	1.03 [0.63, 1.43]
CRQ–Goldstein 1994	0.43	0.92	40	−0.13	0.75	40	0.56 [0.19, 0.93]
CRQ–Gosselink 2000	0.67	1.02	34	−0.1	1.11	28	0.77 [0.23, 1.31]
CRQ–Griffiths 2000	0.97	1	93	−0.15	0.9	91	1.12 [0.85, 1.39]
CRQ–Guell 1995	0.98	1.01	29	−0.18	1.05	27	1.16 [0.62, 1.70]
CRQ–Guell 1998	0.45	0.89	18	−0.3	0.97	17	0.75 [0.13, 1.37]
CRQ–Hernandez 2000	0.86	1	20	0.14	1.03	17	0.72 [0.06, 1.38]
CRQ–Simpson 1992	0.86	1.26	14	0.13	1.11	14	0.73 [−0.15, 1.61]
CRQ–Singh 2003	0.91	0.75	20	0.1	0.68	20	0.81 [0.37, 1.25]
CRQ–Wijkstra 1994	0.8	0.83	28	0.07	0.82	15	0.73 [0.21, 1.25]
CRQT–Bendstrup 1997	0.56	1.01	20	−0.29	1.15	22	0.85 [0.20, 1.50]
DDS–Jones 1985	0	1.09	8	−0.42	2.07	6	0.42 [−1.40, 2.24]
DR–Lake 1990	0.47	1.75	7	0.23	2.33	7	0.24 [−1.92, 2.40]
SGRQ–Boxall 2005	0.41	0.83	23	0.1	0.93	23	0.31 [−0.20, 0.82]
SGRQ–Chlumsky 2001	0.29	1.38	13	0.3	1.34	6	−0.01 [−1.32, 1.30]
SGRQ–Engstrom 1999	−0.02	1.21	26	−0.04	1.13	24	0.02 [−0.63, 0.67]
SGRQ–Finnerty 2001	0.65	0.85	32	0.15	1.05	23	0.50 [−0.02, 1.02]
SGRQ–Ringbaek 2000	0.15	1.33	17	0.15	1.19	21	0.00 [−0.81, 0.81]
SIP–Emery 1998	0.37	0.5	25	0.27	0.58	25	0.10 [−0.20, 0.40]
Subtotal (95% CI)			**553**			**507**	**0.67 [0.48, 0.87]**
Heterogeneity: Tau² = 0.11; Chi² = 64.79, df = 20 (P < 0.00001); I² = 69%							
Test for overall effect: Z = 6.86 (P < 0.00001)							
1.1.2 Strategy 1							
ADL–Booker 1994	0.37	0.58	43	0.02	0.39	43	0.35 [0.14, 0.56]
CRQ–Behnke 2000	1.21	0.83	23	−0.07	1.08	23	1.28 [0.72, 1.84]
CRQ–Cambach 1997	0.84	0.94	46	0.01	0.86	43	0.83 [0.46, 1.20]
CRQ–Goldstein 1994	0.37	0.93	45	−0.13	0.78	44	0.50 [0.14, 0.86]
CRQ–Gosselink 2000	0.42	1.03	50	−0.1	1.08	50	0.52 [0.11, 0.93]
CRQ–Griffiths 2000	0.97	1	93	−0.15	0.9	91	1.12 [0.85, 1.39]
CRQ–Guell 1995	0.78	1.02	35	−0.18	1.05	34	0.96 [0.47, 1.45]
CRQ–Guell 1998	0.38	0.9	20	−0.3	0.98	20	0.68 [0.10, 1.26]
CRQ–Hernandez 2000	0.62	1.02	30	0.14	1.04	30	0.48 [−0.04, 1.00]
CRQ–Simpson 1992	0.73	1.23	17	0.13	1.1	17	0.60 [−0.18, 1.38]
CRQ–Singh 2003	0.91	0.73	20	0.1	0.65	20	0.81 [0.38, 1.24]
CRQ–Wijkstra 1994	0.75	0.84	30	0.07	0.8	15	0.68 [0.18, 1.18]
CRQT–Bendstrup 1997	0.34	1.02	27	−0.29	1.13	30	0.63 [0.07, 1.19]
DDS–Jones 1985	−0.11	1.08	11	−0.42	1.94	8	0.31 [−1.18, 1.80]
DR–Lake 1990	0.44	1.75	8	0.23	2.33	8	0.21 [−1.81, 2.23]
SGRQ–Boxall 2005	0.34	0.88	30	0.1	0.96	30	0.24 [−0.23, 0.71]
SGRQ–Chlumsky 2001	0.29	1.41	13	0.3	1.4	6	−0.01 [−1.37, 1.35]
SGRQ–Engstrom 1999	−0.02	1.2	28	−0.04	1.12	27	0.02 [−0.59, 0.63]
SGRQ–Finnerty 2001	0.55	0.89	40	0.15	1.05	33	0.40 [−0.05, 0.85]
SGRQ–Ringbaek 2000	0.15	1.26	24	0.15	1.2	21	0.00 [−0.72, 0.72]
SIP–Emery 1998	0.36	0.59	29	0.27	0.55	25	0.09 [−0.21, 0.39]
Subtotal (95% CI)			**662**			**618**	**0.56 [0.39, 0.73]**
Heterogeneity: Tau² = 0.08; Chi² = 50.50, df = 20 (P = 0.0002); I² = 60%							
Test for overall effect: Z = 6.60 (P < 0.00001)							
1.1.3 Strategy 2							
ADL–Booker 1994	0.36	0.58	43	0.06	0.39	43	0.30 [0.09, 0.51]
CRQ–Behnke 2000	1.23	0.83	23	0.06	1.08	23	1.17 [0.61, 1.73]
CRQ–Cambach 1997	0.83	0.94	46	0.1	0.86	43	0.73 [0.36, 1.10]
CRQ–Goldstein 1994	0.38	0.93	45	−0.09	0.78	44	0.47 [0.11, 0.83]
CRQ–Gosselink 2000	0.45	1.03	50	0.08	1.08	50	0.37 [−0.04, 0.78]
CRQ–Griffiths 2000	0.97	1	93	−0.15	0.9	91	1.12 [0.85, 1.39]
CRQ–Guell 1995	0.81	1.02	35	−0.08	1.05	34	0.89 [0.40, 1.38]
CRQ–Guell 1998	0.4	0.9	20	−0.21	0.98	20	0.61 [0.03, 1.19]
CRQ–Hernandez 2000	0.57	1.02	30	0.21	1.04	30	0.36 [−0.16, 0.88]
CRQ–Simpson 1992	0.7	1.23	17	0.16	1.1	17	0.54 [−0.24, 1.32]
CRQ–Singh 2003	0.91	0.73	20	0.1	0.65	20	0.81 [0.38, 1.24]
CRQ–Wijkstra 1994	0.75	0.84	30	0.07	0.8	15	0.68 [0.18, 1.18]
CRQT–Bendstrup 1997	0.41	1.02	27	−0.13	1.13	30	0.54 [−0.02, 1.10]
DDS–Jones 1985	−0.01	1.08	11	−0.24	1.94	8	0.23 [−1.26, 1.72]
DR–Lake 1990	0.41	1.75	8	0.24	2.33	8	0.17 [−1.85, 2.19]
SGRQ–Boxall 2005	0.31	0.88	30	0.15	0.96	30	0.16 [−0.31, 0.63]
SGRQ–Chlumsky 2001	0.29	1.41	13	0.3	1.4	6	−0.01 [−1.37, 1.35]
SGRQ–Engstrom 1999	−0.02	1.2	28	0	1.12	27	−0.02 [−0.63, 0.59]
SGRQ–Finnerty 2001	0.52	0.89	40	0.2	1.05	33	0.32 [−0.13, 0.77]
SGRQ–Ringbaek 2000	0.1	1.26	24	0.15	1.2	21	−0.05 [−0.77, 0.67]
SIP–Emery 1998	0.32	0.59	29	0.27	0.55	25	0.05 [−0.25, 0.35]
Subtotal (95% CI)			**662**			**618**	**0.50 [0.33, 0.67]**
Heterogeneity: Tau² = 0.08; Chi² = 52.73, df = 20 (P < 0.0001); I² = 62%							
Test for overall effect: Z = 5.75 (P < 0.00001)							
1.1.4 Strategy 3							
ADL–Booker 1994	0.28	0.58	43	0.06	0.39	43	0.22 [0.01, 0.43]
CRQ–Behnke 2000	1.09	0.83	23	0.06	1.08	23	1.03 [0.47, 1.59]
CRQ–Cambach 1997	0.75	0.94	46	0.1	0.86	43	0.65 [0.28, 1.02]
CRQ–Goldstein 1994	0.34	0.93	45	−0.09	0.78	44	0.43 [0.07, 0.79]
CRQ–Gosselink 2000	0.32	1.03	50	0.08	1.08	50	0.24 [−0.17, 0.65]
CRQ–Griffiths 2000	0.97	1	93	−0.15	0.9	91	1.12 [0.85, 1.39]
CRQ–Guell 1995	0.74	1.02	35	−0.08	1.05	34	0.82 [0.33, 1.31]
CRQ–Guell 1998	0.36	0.9	20	−0.21	0.98	20	0.57 [−0.01, 1.15]
CRQ–Hernandez 2000	0.43	1.02	30	0.21	1.04	30	0.22 [−0.30, 0.74]
CRQ–Simpson 1992	0.63	1.23	17	0.16	1.1	17	0.47 [−0.31, 1.25]
CRQ–Singh 2003	0.91	0.73	20	0.1	0.65	20	0.81 [0.38, 1.24]
CRQ–Wijkstra 1994	0.72	0.84	30	0.07	0.8	15	0.65 [0.15, 1.15]
CRQT–Bendstrup 1997	0.31	1.02	27	−0.13	1.13	30	0.44 [−0.12, 1.00]
DDS–Jones 1985	−0.11	1.08	11	−0.24	1.94	8	0.13 [−1.36, 1.62]
DR–Lake 1990	0.36	1.75	8	0.24	2.33	8	0.12 [−1.90, 2.14]
SGRQ–Boxall 2005	0.22	0.88	30	0.15	0.96	30	0.07 [−0.40, 0.54]
SGRQ–Chlumsky 2001	0.29	1.41	13	0.3	1.4	6	−0.01 [−1.37, 1.35]
SGRQ–Engstrom 1999	−0.05	1.2	28	0	1.12	27	−0.05 [−0.66, 0.56]
SGRQ–Finnerty 2001	0.44	0.89	40	0.2	1.05	33	0.24 [−0.21, 0.69]
SGRQ–Ringbaek 2000	−0.02	1.26	24	0.15	1.2	21	−0.17 [−0.89, 0.55]
SIP–Emery 1998	0.26	0.59	29	0.27	0.55	25	−0.01 [−0.31, 0.29]
Subtotal (95% CI)			**662**			**618**	**0.43 [0.25, 0.61]**
Heterogeneity: Tau² = 0.10; Chi² = 58.42, df = 20 (P < 0.0001); I² = 66%							
Test for overall effect: Z = 4.70 (P < 0.00001)							
1.1.5 Strategy 4							
ADL–Booker 1994	0.28	0.58	43	0.28	0.39	43	0.00 [−0.21, 0.21]
CRQ–Behnke 2000	1.09	0.83	23	0.62	1.08	23	0.47 [−0.09, 1.03]
CRQ–Cambach 1997	0.75	0.94	46	0.63	0.86	43	0.12 [−0.25, 0.49]
CRQ–Goldstein 1994	0.34	0.93	45	0.05	0.78	44	0.29 [−0.07, 0.65]
CRQ–Gosselink 2000	0.32	1.03	50	0.78	1.08	50	−0.46 [−0.87, −0.05]
CRQ–Griffiths 2000	0.97	1	93	−0.15	0.9	91	1.12 [0.85, 1.39]
CRQ–Guell 1995	0.74	1.02	35	0.25	1.05	34	0.49 [0.00, 0.98]
CRQ–Guell 1998	0.36	0.9	20	0.03	0.98	20	0.33 [−0.25, 0.91]
CRQ–Hernandez 2000	0.43	1.02	30	0.9	1.04	30	−0.47 [−0.99, 0.05]
CRQ–Simpson 1992	0.63	1.23	17	0.44	1.1	17	0.19 [−0.59, 0.97]
CRQ–Singh 2003	0.91	0.73	20	0.1	0.65	20	0.81 [0.38, 1.24]
CRQ–Wijkstra 1994	0.72	0.84	30	0.07	0.8	15	0.65 [0.15, 1.15]
CRQT–Bendstrup 1997	0.31	1.02	27	0.29	1.13	30	0.02 [−0.54, 0.58]
DDS–Jones 1985	−0.11	1.08	11	0.16	1.94	8	−0.27 [−1.76, 1.22]
DR–Lake 1990	0.36	1.75	8	0.44	2.33	8	−0.08 [−2.10, 1.94]
SGRQ–Boxall 2005	0.22	0.88	30	0.52	0.96	30	−0.30 [−0.77, 0.17]
SGRQ–Chlumsky 2001	0.29	1.41	13	0.3	1.4	6	−0.01 [−1.37, 1.35]
SGRQ–Engstrom 1999	−0.05	1.2	28	0.18	1.12	27	−0.23 [−0.84, 0.38]
SGRQ–Finnerty 2001	0.44	0.89	40	0.68	1.05	33	−0.24 [−0.69, 0.21]
SGRQ–Ringbaek 2000	−0.02	1.26	24	0.15	1.2	21	−0.17 [−0.89, 0.55]
SIP–Emery 1998	0.26	0.59	29	0.27	0.55	25	−0.01 [−0.31, 0.29]
Subtotal (95% CI)			**662**			**618**	**0.14 [−0.08, 0.37]**
Heterogeneity: Tau² = 0.18; Chi² = 90.16, df = 20 (P < 0.00001); I² = 78%							
Test for overall effect: Z = 1.28 (P = 0.20)