

Participant Flow

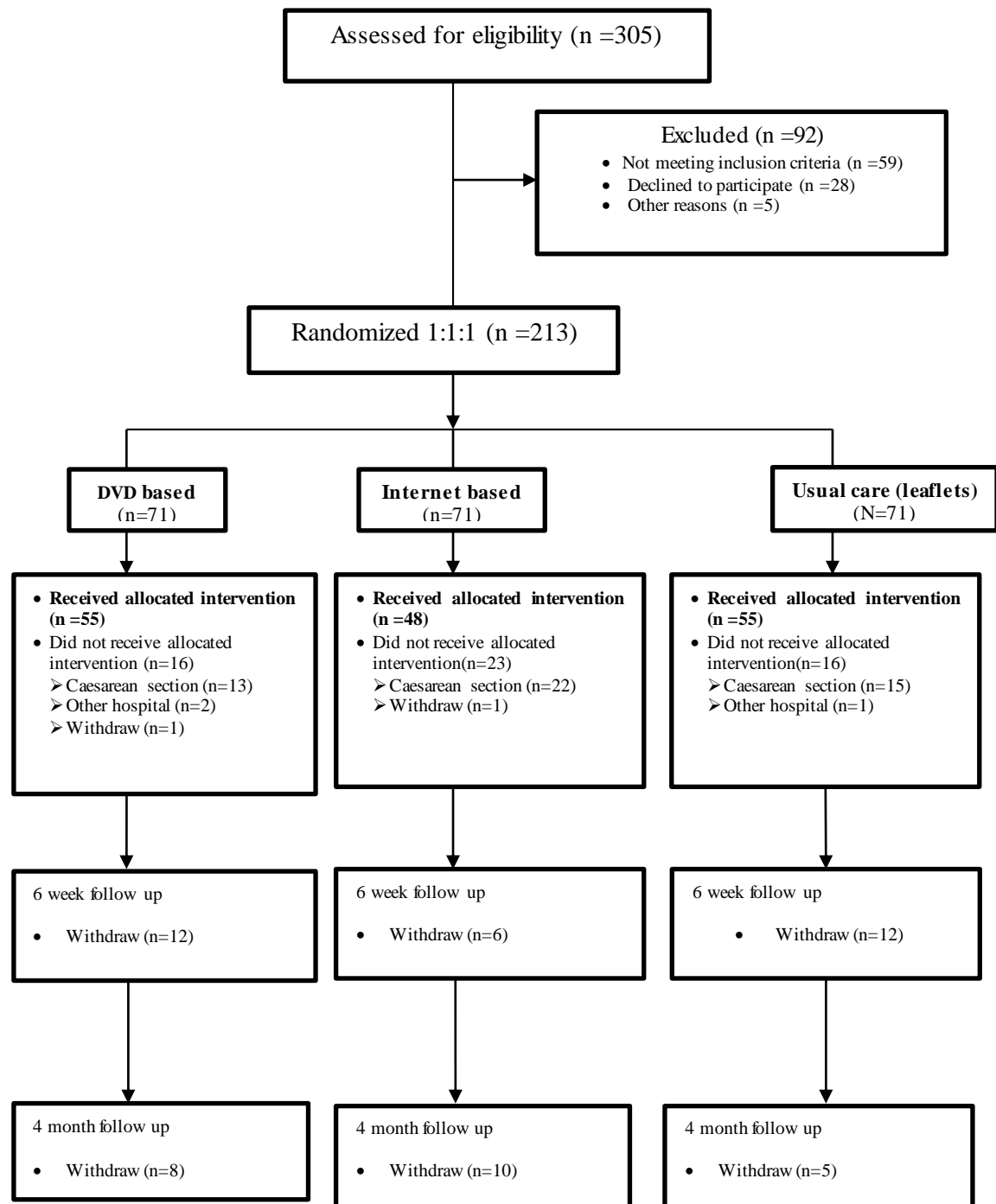


Figure 1: Study CONSORT flow diagram.

Baseline Characteristics

Table 1: Baseline biographical profile of women per group (n=213)

Characteristic	All		DVD-based		Internet-base		Usual care		<i>p</i> Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
Age (years)	31.5 (4.8)	18-40.5	31.4 (4.9)	18-40.4	31.0 (5.1)	18-40.5	32.0 (4.3)	20.6-40	0.453
Height (cm)	160.1 (5.1)	149-175	160.4 (4.8)	150-171	160.0 (5.3)	150-175	159.9(5.4)	149-172	0.857
Weight (Kg)	67.8 (10.1)	45-113.4	67.2 (7.9)	49-86	68.8 (12.3)	51.5-113.4	67.6 (9.6)	45-95.4	0.627
Gestation week	36.5 (1.6)	34-40.5	36.6 (1.4)	34.1-40.5	36.2 (1.6)	34-40	36.6 (1.6)	34-39.5	0.272
BMI at recruitment	26.3 (3.7)	13.3-41.5	26.1 (3.0)	20.4-33.5	26.5 (4.5)	13.3-41.1	26.4 (3.5)	18.7-36.1	0.762
BMI before pregnancy	21.3 (3.1)	15.7-35.3	20.8(2.6)	15.7-28.2	21.8 (3.6)	15.8-35.3	21.2 (3.0)	15.9-30.8	0.166

Table 2: Baseline demographical profile of women per group (n=213)

	All	DVD-based	Internet-base	Usual care	
	N (%)	N (%)	N (%)	N (%)	<i>p</i> Comparison Among the Groups
Characteristic					
Education					0.154
secondary school	2 (0.9)	1 (0.5)	1 (0.5)	–	
High school	39 (18.3)	8 (3.8)	15 (7)	16 (7.5)	
College	32 (15.0)	9 (4.2)	8 (3.8)	15 (7.0)	
Bachelor's degree	123 (57.7)	49 (23)	38 (17.8)	36 (16.9)	
Master's degree	17 (8.0)	4 (1.9)	9 (4.2)	4 (1.9)	
Marital status					0.238
Single	5 (2.3)	2 (0.9)	3 (1.4)	–	
Married	208 (97.7)	69 (32.4)	68 (31.9)	71 (33.3)	
Employment Status					0.680
Fulltime	154 (72.3)	48(22.5)	51 (23.9)	55 (25.8)	
Part time	8 (3.8)	4 (1.9)	2 (0.9)	2 (0.9)	
Unemployed	51 (23.9)	19 (8.9)	18 (8.5)	14 (6.6)	
Exercise Before Pregnancy					0.698
Yes	116(54.5)	39 (18.3)	41 (19.2)	36 (16.9)	
No	97 (45.5)	32 (15.0)	30 (14.1)	35 (16.4)	
Exercise During Pregnancy					0.781
Yes	118 (55.4)	41 (19.2)	40 (18.8)	37 (17.4)	
No	95 (44.6)	30 (14.1)	31 (14.6)	34 (16.0)	
Type of exercise before pregnancy					0.798
To take a walk over 30 minutes per day	42 (36.2)	13 (11.2)	15 (12.9)	14 (12.0)	
Brisk walking	8 (6.9)	2 (1.7)	2 (1.7)	4 (3.4)	
Yoga	13 (11.2)	4 (3.4)	7 (6.0)	2 (1.7)	
Aerobicexercise	15 (12.9)	7 (6.0)	4 (3.4)	4 (3.4)	
Swim	10 (8.6)	4 (3.4)	4 (3.4)	2 (1.7)	
Gym	16 (13.7)	5 (4.3)	6 (5.1)	5 (4.3)	
Ball exercise	3 (2.5)	2 (1.7)	1 (0.8)	–	
running	9 (7.7)	2 (1.7)	2 (1.7)	5 (4.3)	

Outcome Measures

Primary outcome measure

Table 3: Primary Outcome: VAS in mm (0-100) of LPP at 3 days (n=158) and six weeks postpartum (n=128) and four months postpartum (n=105)

Characteristic	All		DVD-based		Internet-base		Usual care		P Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
At 3 days									
Pain at present	30.2 (24.2)	0-100	38.8 (27.9)	0-100	43.4 (29.4)	0-100	37.4 (27.6)	0-100	0.042*
Pain at past week	51.4 (25.3)	0-100	44.8 (24.1)	0-90	44.4 (27.1)	0-100	47.0 (25.6)	0-100	0.286
At six weeks postpartum									
Pain at present	10.4 (15.2)	0-60	6.5 (12.3)	0-50	10.7 (14.8)	0-60	14.1 (17.5)	0-50	0.064
Pain at past week	16.3 (18.6)	0-70	16.5 (19.5)	0-70	10.6 (14.3)	0-50	21.7 (20.2)	0-60	0.022*
At four months postpartum									
Pain at present	4.0 (10.4)	0-60	2.8 (9.2)	0-50	3.2 (7.1)	0-30	5.6 (13.4)	0-60	0.471
Pain at past week	7.1 (13.5)	0-70	7.1 (11.7)	0-50	4.1 (9.8)	0-50	9.7 (17.0)	0-70	0.229

* Significant differences between the groups (P < 0.05)

Secondary outcome measures

Table 4: DRI in mm (mm) at six weeks postpartum for three groups (mean values) (n=128)

Characteristic	All		DVD-based		Internet-base		Usual care		P Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
Dressing (without any help)	1.28 (4.87)	0-30	0.46 (3.04)	0-20	1.19 (4.91)	0-30	2.20 (6.10)	0-30	0.250
Outdoor walking	1.36 (4.84)	0-30	0.69 (3.37)	0-20	1.54 (5.35)	0-30	1.86 (5.56)	0-30	0.520
Climbing stairs	2.79 (7.69)	0-50	1.62 (3.37)	0-30	3.04 (9.34)	0-50	3.72 (7.95)	0-30	0.440
Sitting for a long time	8.87 (14.0)	0-70	6.48 (10.8)	0-40	7.61 (12.6)	0-50	12.4 (17.3)	0-70	0.108
Standing bent over a sink	4.75 (11.3)	0-70	2.32 (7.18)	0-40	3.88 (8.64)	0-40	8.02 (15.7)	0-70	0.055
Carrying a bag	4.04 (9.21)	0-50	4.18 (10.0)	0-50	3.69 (7.89)	0-35	4.25 (9.73)	0-40	0.954
Making a bed	6.09 (12.1)	0-60	5.11 (10.5)	0-40	5.71 (9.72)	0-30	7.44 (15.4)	0-60	0.656
Running	9.09 (16.4)	0-100	5.81 (10.9)	0-40	9.38 (15.6)	0-80	12.0 (20.8)	0-100	0.206
Doing light work	3.12 (7.26)	0-30	5.47 (9.67)	0-30	1.16 (3.90)	0-20	2.79 (6.57)	0-30	0.021*
Doing heavy work	14.2 (19.2)	0-100	12.2 (18.3)	0-50	16.1 (16.3)	0-60	14.4 (22.5)	0-100	0.643
Lifting heavy objects	14.1 (19.7)	0-100	12.4 (20.6)	0-80	14.4 (16.3)	0-60	15.5 (22.2)	0-100	0.726
Participating in exercise/sport	9.76 (16.0)	0-80	6.39 (14.7)	0-80	10.8 (17.0)	0-80	12.0 (16.0)	0-50	0.225
DRI total	6.63 (8.7)	0-39	5.26 (8.4)	0-28	6.54 (7.3)	0-39	8.08 (10.1)	0-30	0.239

* Significant differences between the groups (P < 0.05)

Table 5: DRI in mm (mm) at four months postpartum for three groups (mean values) (n=105)

Characteristic	All		DVD-based		Internet-base		Usual care		<i>P</i> Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
Dressing (without any help)	1.00 (5.29)	0-40	0.85 (5.07)	0-30	0.78 (3.61)	0-20	1.31 (6.64)	0-40	0.900
Outdoor walking	0.80 (4.55)	0-40	0.28 (1.69)	0-10	1.09 (3.96)	0-20	1.05 (6.48)	0-40	0.710
Climbing stairs	1.57 (7.44)	0-60	0.85 (2.84)	0-10	2.03 (7.81)	0-40	1.84 (9.82)	0-60	0.784
Sitting for a long time	4.95 (11.9)	0-70	4.57 (10.1)	0-40	2.65 (7.18)	0-30	7.23 (15.8)	0-70	0.272
Standing bent over a sink	2.28 (8.88)	0-70	2.00 (6.32)	0-30	0.15 (0.88)	0-5	4.34 (13.2)	0-70	0.141
Carrying a bag	3.47 (11.2)	0-70	3.71 (11.1)	0-50	1.40 (4.25)	0-20	5.00 (14.8)	0-70	0.411
Making a bed	2.52 (7.40)	0-45	2.28 (5.46)	0-20	0.78 (2.57)	0-10	4.21 (10.7)	0-45	0.152
Running	4.00 (10.8)	0-50	2.85 (7.10)	0-30	3.90 (12.3)	0-50	5.13 (12.4)	0-45	0.674
Doing light work	1.00 (4.06)	0-30	0.57 (2.35)	0-10	1.40 (5.56)	0-30	1.05 (3.88)	0-20	0.704
Doing heavy work	6.04 (13.2)	0-60	6.00 (13.1)	0-50	3.90 (9.22)	0-40	7.89 (16.1)	0-60	0.462
Lifting heavy objects	6.52 (14.3)	0-60	7.42 (15.9)	0-60	2.96 (8.11)	0-40	8.68 (16.4)	0-60	0.228
Participating in exercise/sport	3.28 (9.24)	0-50	2.57 (7.80)	0-40	2.65 (8.03)	0-40	4.47 (11.3)	0-50	0.616
DRI total	3.04 (6.84)	0-40	2.79 (5.33)	0-20	1.86 (4.72)	0-23	4.27 (9.17)	0-40	0.334

Table 6: Physical testing and diastasis recti at discharge (n=158), six weeks (n=128) and four months postpartum (n=105) for three groups (mean values)

Characteristic	All		DVD-based		Internet-base		Usual care		<i>P</i> Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
Discharge period									
Physical testing									
Body weight	64.0 (9.77)	43.9-91.3	63.1 (7.90)	49.2-82.1	65.3 (11.5)	46.7-86.9	63.8 (9.79)	43.9-91.3	0.515
Waist circumference	92.2 (9.04)	59-134	91.5 (8.26)	67-107	92.8 (9.08)	77-110	92.4 (9.85)	59-134	0.771
Diastasis recti									
Umbilicus 4.5 cm above	1.87 (0.65)	0-4	1.83 (0.62)	0.5-3	1.79 (0.60)	0-3	1.99 (0.71)	1-4	0.262
Umbilicus	2.58 (0.80)	0.5-4	2.44 (0.83)	0.5-4	2.47 (0.81)	0.5-4	2.80 (0.71)	1-4	0.032*
Umbilicus 4.5 cm below	1.53 (0.79)	0-3	1.45 (0.89)	0-3	1.37 (0.76)	0-3	1.74 (0.67)	0-3	0.042*
At six weeks									
Physical testing									
Body weight	59.9 (9.17)	43-87	59.6 (7.35)	47-76.8	61.1 (10.7)	44.4-83	59.2 (9.21)	43-87	0.784
Waist circumference	83.5 (7.36)	67-108	83.1 (6.97)	67-100	84.1 (8.09)	71-98	83.2 (7.11)	69-108	0.272
Diastasis recti									
Umbilicus 4.5 cm above	0.84 (0.52)	0-2	0.84 (0.55)	0-2	0.83 (0.47)	0-2	0.86 (0.54)	0-2	0.411
Umbilicus	1.51 (0.58)	0-3	1.47 (0.60)	0.5-3	1.46 (0.60)	0-2	1.61 (0.55)	0.5-3	0.152
Umbilicus 4.5 cm below	0.66 (0.53)	0-2	0.65 (0.55)	0-2	0.65 (0.55)	0-2	0.68 (0.51)	0-2	0.674

Table 6: continued

Characteristic	All		DVD-based		Internet-base		Usual care		<i>P</i> Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
At four months									
Physical testing									
Body weight	57.8 (8.85)	41.9-88	57.2 (6.10)	46.6-75	59.3 (10.8)	44.8-81.2	57.1 (9.23)	41.9-88	0.502
Waist circumference	78.6 (7.36)	58-98	77.3 (7.01)	62.5-92	79.4 (7.64)	69-98	79.0 (7.45)	58-97	0.428
Diastasis recti									
Umbilicus 4.5 cm above	0.46 (0.46)	0-2	0.44 (0.46)	0-1.5	0.39 (0.37)	0-1	0.55 (0.51)	0-2	0.323
Umbilicus	0.92 (0.61)	0-3	0.90 (0.56)	0-2.5	0.81 (0.54)	0-2	1.05 (0.70)	0-3	0.257
Umbilicus 4.5 cm below	0.43 (0.42)	0-1.5	0.42 (0.43)	0-1.5	0.39 (0.47)	0-1.5	0.44 (0.38)	0-1.5	0.857

*Significant differences between the groups ($P < 0.05$)

Table 7: Uptake exercise eight types at six weeks (n=99) and four months postpartum (n=58) for three groups (mean values)

Characteristic	All		DVD-based		Internet-base		Usual care		P Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
Six weeks postpartum									
Abdominal breathing exercises	25.0 (12.7)	5-42	27.0 (11.3)	8-42	25.2 (13.0)	5-42	22.6 (14.2)	5-42	0.646
Head and neck exercises	18.1 (13.0)	1-42	18.2 (11.7)	1-42	20.3 (14.2)	1-41	14.8 (12.6)	1-40	0.341
Breast exercises	19.1 (12.9)	1-42	16.9 (12.2)	1-42	22.5 (13.2)	1-42	19.1 (12.9)	1-41	0.238
Leg exercises	17.8 (12.9)	1-39	17.0 (13.9)	2-39	20.0 (12.8)	1-38	15.8 (13.1)	2-38	0.523
Gluteus exercises	18.1 (13.6)	1-39	17.5 (13.4)	1-39	21.6 (13.7)	2-37	14.9 (12.5)	1-37	0.257
Vaginal contraction exercises	20.1 (12.5)	1-42	20.0 (12.3)	1-42	21.4 (12.9)	1-42	19.0 (12.7)	1-42	0.771
Abdominal muscle exercises	15.5 (11.3)	1-35	16.7 (12.3)	1-35	16.0 (10.7)	2-29	12.1 (11.1)	2-35	0.551
Knee-to-Chest exercises	17.6 (11.0)	1-35	15.8 (12.7)	1-35	21 (8.9)	1-29	15.5 (10.5)	2-35	0.319
Four months postpartum									
Abdominal breathing exercises	43.4 (25.8)	1-70	39.4 (1.54)	1-70	51.4 (22.6)	10-70	39.5 (29.9)	8-70	0.379
Head and neck exercises	43.1 (25.9)	1-70	35.8 (27.3)	1-70	48.9 (22.4)	14-70	46.8 (29.4)	8-70	0.428
Breast exercises	45.9 (26.0)	1-70	45.4 (25.5)	1-70	49.0 (25.4)	2-70	40.5 (32.3)	8-70	0.807
Leg exercises	40.8 (24.1)	1-70	39.6 (23.5)	1-70	42.5 (24.2)	15-70	40.4 (27.5)	8-70	0.935
Gluteus exercises	41.3 (23.7)	1-70	38.9 (23.4)	1-70	44.4 (22.6)	10-70	42.3 (28.2)	8-70	0.775
Vaginal contraction exercises	42.6 (22.6)	1-70	41.4 (20.7)	5-70	43.0 (24.0)	1-70	44.1 (25.8)	8-70	0.943
Abdominal muscle exercises	40.6 (23.6)	1-70	39.1 (22.9)	1-70	38.3 (24.3)	5-70	50.8 (25.4)	8-70	0.472
Knee-to-Chest exercises	40.9 (24.9)	1-70	37.2 (23.3)	1-70	42.7 (25.7)	7-70	44.0 (28.5)	8-70	0.789

Table 8: Weekly exercise adherence at six weeks (n=99) and four months postpartum (n=58) for three groups (mean values)

Characteristic	All		DVD-based		Internet-base		Usual care		P Comparison Among the Groups
	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	\bar{x} (SD)	Range	
Week 1	6.89 (4.35)	1-21	5.69 (2.56)	1-12	7.66 (4.84)	1-21	7.08 (4.98)	1-19	0.258
Week 2	7.38 (4.52)	1-28	6.40 (3.14)	1-12	7.61 (4.57)	1-17	8.24 (5.69)	1-28	0.305
Week 3	8.15 (4.98)	3-28	6.77 (2.32)	3-12	9.79 (7.06)	3-28	7.66 (3.27)	3-14	0.065
Week 4	7.64 (4.95)	1-28	6.76 (2.32)	2-12	9.35 (7.35)	1-28	6.61 (2.87)	3-14	0.073
Week 5	7.30 (5.02)	2-28	6.40 (2.41)	2-12	9.20 (7.15)	3-28	5.84 (3.07)	2-14	0.032*
Week 6	7.58 (4.62)	1-21	7.07 (3.80)	2-21	8.53 (5.46)	1-20	6.80 (4.32)	2-18	0.402
Week 7	5.52 (2.91)	1-15	5.42 (2.71)	1-12	5.87 (3.51)	1-15	5.30 (2.68)	1-10	0.851
Week 8	7.63 (4.20)	2-20	6.52 (1.70)	2-8	9.76 (5.87)	2-20	6.75 (3.93)	2-16	0.035*
Week 9	6.32 (3.06)	1-16	5.27 (1.75)	1-7	7.88 (4.21)	2-16	6.00 (2.14)	2-10	0.025*
Week 10	5.70 (2.19)	1-10	5.33 (1.73)	2-7	6.05 (2.67)	1-10	5.90 (2.25)	2-10	0.541
Week 11	5.76 (1.65)	2-8	5.70 (1.54)	2-7	5.66 (1.78)	2-8	6.10 (1.79)	3-8	0.785
Week 12	5.55 (1.69)	2-9	5.41 (1.61)	2-7	5.44 (1.88)	2-9	6.10 (1.59)	3-8	0.540
Week 13	5.82 (1.69)	2-10	5.40 (1.50)	2-7	6.12 (1.70)	2-8	6.33 (2.06)	3-10	0.274
Week 14	5.78 (1.64)	1-9	5.40 (1.59)	1-7	6.18 (1.75)	2-9	6.00 (1.50)	3-7	0.328
Week 15	5.53 (2.03)	1-10	5.40 (1.59)	2-7	5.06 (2.56)	1-8	6.66 (1.65)	4-10	0.154
Week 16	5.04 (1.53)	1-8	4.86 (1.39)	1-6	5.12 (1.70)	1-7	5.33 (1.65)	3-8	0.724
Week 1 to week 6	5.87 (4.25)	0.17-22.67	5.47 (2.39)	0.83-9.67	6.86 (5.79)	0.17-22.67	5.06 (3.39)	0.17-14	0.191
Week 7 to week 16	5.09 (2.33)	0.10-8.80	4.86 (2.04)	0.10-7.10	5.62 (2.44)	1.5-8.80	4.78 (2.73)	0.8-8.8	0.491

* Significant differences between the groups (P < 0.05)

Table 9: Postpartum exercise of completion rate at six weeks (n=128) and four months postpartum (n=105) for three group

	All	DVD-based	Internet-base	Usual care
Characteristic	N (%)	N (%)	N (%)	N (%)
Six weeks postpartum				
Yes	99 (77.3)	33 (25.8)	37 (28.9)	29 (22.7)
No	29 (22.7)	10 (7.8)	5 (3.9)	14 (10.9)
Four months postpartum				
Yes	58 (55.2)	26 (24.8)	19 (18.1)	13 (12.4)
No	47 (44.8)	9 (8.6)	13 (12.4)	25 (23.8)

Adverse Events

There were no adverse events associated with this trial.