

Therapeutic gymnastic: Effects on the quality of life at two months in postpartum period

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Abstract. The structured training program at the third trimester of pregnancy (24th : T1 to 36th week) essentially centred on the trunk fitness allows benefice on the quality of life (QoL) measured by using the questionnaire (SF36). At postpartum period (T2 after 2 months in postpartum), the comparison between the control group (CG) vs training group (TG) show that all the items of (SF36) increase in (TG) while they decrease in (CG). In consequence, all the items of the SF36 were more important in TG at T2 compared with CG. The benefice in QoL seems more important than in others studies. Even if more studies are necessary, we conclude that centred the physical activity on trunk fitness during the third trimester pregnancy seems promising.

1 Introduction

During pregnancy important hormonal modifications lead to physiological and mood perturbation and should conduct to anxiety and depression (1). The motricity and activity of daily life could be also perturbed and associate with the frequent pains, observed particularly in low back pain. All these parameters could conduct to decreasing of quality of life (QoL) (2). Several program of physical activity during pregnancy were already proposed but, to our knowledge, no program was centered on the trunk fitness for pregnant without pain or present no effect when pelvic pain (3).

2 Purpose

To examine the effect of specifics physical training exercises during pregnancy, more particularly centred on the trunk, on the QoL at late pregnancy and at 2 months in post-partum.

3 Method

49 nulliparous participants (24th to 36th week) were randomly distributed in training group TG (n=24) or control group CG (n=25) [Age 29±2 vs 28±3 NS]. The TG consisted to realize a 12 week physical training program with 2*60 min per week. The QoL was measured with using the SF36 (6) for the two groups at T1 (24th week of pregnancy at the beginning of the program) and at T2 (Two months after delivery). Statistic: ANOVA with Bonferroni correction (when necessary) were used to compare QoL in intra-group (T1 vs T2) and inter-groups (CG vs TG).

4 Results

No statistical difference was observed in T1 (intra-group) between the two groups. At T2 all of the 8 items and the global score of SF36 were statistically different between the two groups (inter-group differences) and between tests (T1 vs T2 ; inter-sessions). Table 1 shows that all the items of QoL increase in TG in post-partum period (T2) compared to the beginning of the program (T1) when it all decrease in CG. The effect sizes were most of the time 10 to 30 which indicated a low potential error of type II.

	T1			T2			T1 vs T2	
	TG	CG	Inter-groups Effect size ; p value	TG	CG	Inter-groups Effect size ; p value	Inter-sessions TG Effect size ; p value	Inter-sessions CG Effect size ; p value
N=49								
Physical Functioning	64±6	66±6	1.6 ; 0.2	95±7	50±2	37.9 ; p<0.0001	36.2 ; p<0.0001	35.5 ; p<0.0001
Role Physical	60±10	61±5	0.04 ; 0.8	90±20	45±10	29 ; p<0.0001	20.1 ; p<0.0001	31.4 ; p<0.0001
Bodily Pain	69±11	68±8	0.01 ; 0.9	80±10	49±6	35.7 ; p<0.0001	12.3 ; p=0.0001	24.6 ; p<0.0001
General Health	77±4	65±11	1.08 ; 0.3	85±5	52±8	36.5 ; p<0.0001	23.1 ; p<0.0001	28.6 ; p<0.0001
Vitality	53±6	52±6	0.02 ; 0.8	67±13	40±13	30.5 ; p<0.0001	18.1 ; p<0.0001	12.9 ; p=0.0001
Social Functioning	66±12	67±8	1.01 ; 0.9	89±15	52±12	29.3 ; p<0.0001	16.8 ; p<0.0001	19.8 ; p<0.0001
Role-Emotional	67±9	65±12	0.4 ; 0.9	94±16	47±6	33.9 ; p<0.0001	28.1 ; p<0.0001	26.3 ; p<0.0001
Mental Health	74±10	67±18	2.5 ; 0.1	82±7	49±11	35.1 ; p<0.0001	9.7 ; p=0.001	15.1 ; p<0.0001
Global score	66±4	62±6	1.2 ; 0.2	85±13	48±4	36 ; p<0.0001	31.4 ; p<0.0001	36.2 ; p<0.0001

Table 1. Statistical results of quality of life in T1 and T2.

TG = Training Group; CG=Control Group; T1= Before the program (24th week of pregnancy); T2 = 2 months in post-partum.

5 Conclusion

The structured training program essentially centred on the trunk fitness allows increasing all the items of the QoL in postpartum for TG while they decrease in CG group (Intra-group comparisons). In consequence, all the items of the SF36 were more important in TG group in T2 than for CG (inter-group comparisons). The benefit in QoL seems more important than in others studies (4;5). That will be related to the difference in choice of the type of exercises, aerobics in (5) and strengthening in our study. In addition, the intervention period could be also in the origin of differences, 16e - 20e weeks of pregnancy in (5) as 24e - 36e in ours. Aerobic exercises do seem not very effective in preventing against the pain at late pregnancy and in post-partum period (7). Moreover, the scores of QoL for our TG seem more similar to these measured in post-partum period in (8) which apply a strengthening program during pregnancy too.

The Trunk is the more solicited and potentially altered zone in pregnant, and we hypothesize that its strengthening, could reduce or prevent from pain that could facilitate the improvement of physical health and so facilitate activities of daily life and therefore conduct to improve quality of life.

Even if more studies are necessary to confirm hypotheses, we conclude that centred the physical activity on trunk fitness during pregnancy seems promising.

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