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INFLUENCE OF PATELLAR TAPING ON PLANTAR PRESSURE IN SUBJECTS WITH AND WITHOUT PATELLOFEMORAL PAIN SYNDROME

Gilmar Moraes Santos[1],Eduardo Stapait[1,2], Lisiane Piazza[3], Thiele de Cássia Libardoni[1] Morgan Lanzarin[1],
[1] Universidade do Estado de Santa Catarina (UDESC), Centro de Ciências da Saúde e do Esporte. Mestrado em Fisioterapia.
[2]Universidade do Oeste de Santa Catarina (UNOESC), Curso de Fisioterapia.[3]Universidade do Estado de Santa Catarina (UDESC), Centro de Ciências da Saúde e do Esporte. Mestrado em Ciências do Movimento Humano.Corresponding author: Gilmar Moraes Santos (gilmar.santos@udesc.br)

INTRODUCTION

The patellofemoral pain syndrome (PFPS) affecting approximately 15% to 20% of the general population [1,2], occurring most frequently in female. Subjects with PFPS have shown difficulty in recovery, compared to conservative treatment patterns and inadequate response to pain reduction and achievement of daily activities. Allied inefficiency of treatment, the annual cost of treatment is high [3].

Currently, evidence suggests that patellar taping or bracing, the technique used in the treatment of PFPS, could reduce pain and improve function. Although widely used in clinical practice, little is known regarding the mechanisms involved in the clinical improvement of patients with PFPS that underwent application of taping, with inconclusive answers regarding the relationship between the taping and change the position of the patella and neuromuscular control of the stabilizing muscles of patella[4,5]. The understanding of the effect caused by taping in individuals with PFPS may provide a rational basis for prevention, rehabilitation and training of patients with PFPS. Therefore, the aim of this study was determine the influence of patellar taping on plantar pressure variables during functional activities in subjects with PFPS

METHODS

The study included 27 women with divided into 3 groups: 9 subjects with PPS (PFTG: 21,55 years ±0,62; 61,5kg ±2,16; 162,55cm ±1,39) and 9 healthy subjects (GC: 20,92 years ±0,56; 55,52kg ±1,65; 162,80cm ±1,39) that received patellar taping, and 9 subjects with PFPS who received placebo taping (GPFPT: 21,90 years ±0,74; 57,61kg ±2,69; 164,45cm ±1,37).

The evaluation of plantar pressure variables was performed by the system Emed- at (Novel Company, Gmbh). The variables peak pressure and contact area, was performed with or without taping for two functional activities, squat and single-leg stance. To avoid influences of learning, the order of execution of the tasks was randomized.

For data analysis were considered 7 regions of the foot: medial and lateral hindfoot, midfoot medial and lateral, and forefoot lateral, mid and central (Figure 1). The analyzes were conducted in Statistical Package for the Social Sciences (SPSS v. 13.0)..

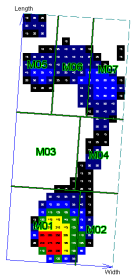

Figure 1: Mask with divisions foot

RESULTS AND DISCUSSION

Table 1 shows the peak pressure and contact area around the foot during the squat and single leg stance. . On squat, the taping decreased the contact area in the region of the first metatarsal on CG (14.11 cm to 13.24, p = 0.018). On single leg stance, the peak pressure reduced on PFTPG with taping (390.37 to 338 kPa, 33 p = 0.045) and the peak pressure is higher with the use of taping in CG when analyzed region of the lateral midfoot.

Despite presenting changes in some regions, there was no significant differences between groups due to the use of taping. The use of taping does not seem to significantly influence the peak pressure and contact area of subjects with PFPS during functional activities, the effects related to the use of taping does not seem to be related to changes in motor strategies.

CONCLUSIONS

This study did not observe influences of taping in subjects with PFPS during functional activity. Further studies need to elucidate the mechanisms involved in improving symptoms in subjects with PFPS treated with taping

Table 1: Mean of contact area and peak pressure with and without taping.

	Group					
	CG		PFTG		PFTPG	
	Squat	Single leg	Squat	Single leg	Squat	Single leg
Contact area without taping	82,37	108,26	88,24	114,89	83,26	116,59
Contact area with taping	81,11	107,85	87,09	115,89	83,63	114,98
Peak pressure without taping	260,19	415,19	233,15	291,30	231,11	390,37
Peak pressure without taping	251,30	388,33	235,37	319,63	231,85	338,33

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