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Scoliosis

ORAL PRESENTATION Open Access

A cognitive behavioral approach allows improving brace wearing compliance: an observational controlled retrospective study with thermobrace

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Background

Results of brace treatment of Idiopathic Scoliosis are related to brace wearing.

Aim

To verify if Cognitive Behavioural Approach (CBA) dispensed during Physiotherapic Scoliosis Specific Exercises (PSSE) sessions increases brace wearing.

Design

Retrospective controlled cohort study nested into a clinical database.

Methods

Setting. Outpatient tertiary referral clinic.

Population. Out of 778 patients, 246 fulfilled the inclusion criteria: Idiopathic Scoliosis; first brace prescription; regular use of Thermobrace heat sensor; two evaluations after bracing; age ^{3}6; European Risser 0-3.

Evaluations. T0 (start of bracing), T1 (4 months), T2 (10 months).

Measurements. Brace wearing compliance (BWC) T0 to T1 (T0-T1) and T1 to T2 (T1-T2).

Treatment. CBA adjunctive sessions dispensed during PSSE (CBA-PSSE), after the standard CBA provided to all patients including: at prescription, 20' by Medical Doctor (MD) and 30-45' by Physiotherapist; at brace check, 10-15' by MD and Orthopaedic Technician; at T1, 10-15' by MD.

Groups. According to CBA-PSSE in T0-T1 period: CBA1 (143 patients) ^{3}2 sessions; Poor-Adherence (PA1, 52) 1 session; Control (CON1, 51) 0 sessions . Similarly, according to CBA-PSSE in T1-T2 period: CBA2 (97), PA2 (78), CON2 (71). Combinations among the 6 groups in the two periods were checked.

Statistics. ANOVA for group comparisons.

Results

Patients were 13.03±1.11 years old. Brace hours prescription: 21.93±1.77 (T0-T1), 21.03±1.79 (T1-T2). BWC: 91.06±12.63% (T0-T1), 91.64±14.3% (T1-T2).

We found no differences among groups in brace prescription and BWC in T0-T1.

In T1-T2:

CBA1 had more brace prescription than CON1 ($P<0.01$);

CBA1 and CON1 improved BWC more than PA1 ($P<0.005$);CBA2 and CON2 improved BWC more than PA2; patients who were both in CBA1 and in CBA2, had more hours of brace prescription than PA2 and CON2, and improved brace compliance more than PA2 ($P<0.05$).

Overall, BWC differences among groups reached a maximum of 7%.

Conclusion

CBA improves BWC: specifically, patients with high CBA-PSSE in both observed periods (CBA1+CBA2) had both the highest brace hours prescription and the highest BWC. Poor adherence to CBA-PSSE matched with poor adherence to brace wearing.

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