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### **Compliance monitor usefulness is confirmed by patients with AIS and their parents who used it: results from a survey.**

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#### **Background**

A temperature monitor, can be used to objectively measure the hours of brace wear, in adolescents with idiopathic scoliosis. Since 2010 we introduced this tool, that we called Thermobraces (TB), as a standard of care in everyday clinical practice. Through TB we documented a compliance dramatically higher than previously reported (91.7 % of prescription; IC95 56.6–101.7%)(1). After this five year experience, when braced patients do not accept the use of sensors, treatment becomes more difficult and less accurate. Attitude towards this electronic devices have never been investigated, therefore we planned a survey, able to clarify the attitude of parents and patients towards the TB device after having experienced its use.

#### **Objective**

The present study aim to investigate the attitude of parents and patients towards the use of temperature sensor for measuring brace wear compliance. And also to verify the differences between parents and their children, in the following domain: understanding of the device, usefulness, acceptance, reliability, and feeling related to the moment of data reading and discussion.

#### **Methods**

The respondents were 301 girls and 63 boys and their parents, mean age 14,65 (SD 2.36) mean Cobb angle 34,18(SD 13,57), average prescription was 21,76 hours per day (SD 2,53). 257, have a prescription of a brace following the SPoRT Brace concept.(2)

The population was selected according to the following inclusion criteria: brace wear fulltime prescription and at least one visit with download and discussion of TB data.

The main domain of the questionnaire regarded: usefulness, acceptability, reliability, feeling related to the moment of data download, reading and discussion. All these item were investigated in parents

and patients. A first draft of the questionnaire was prepared by two expert physicians (SD and SN), patients were invited to complete the questionnaire anonymously by the administrative staff. Two external investigator, not directly involved in the clinical activity, reviewed the questionnaire and analysed data (AN and GM). The European commission was informed about the present survey, and approved it (684828). Descriptive statistics was used to present results.

## **Results**

Among the recruited subjects we collected 336 questionnaires. Patients stating that TB is useful were the 74%, and 88% among parents. The 64,5% of patients consider the TB at least in part an ally and helpful in improving their adherence to prescription, among parents the percentage were similar: 63%. The 68% of parents thinks it's useful to know that their children are monitored during therapy and the 86% declare that there is not any affection of the trust for their children. Sharing data with their physician or their parents, never disturbed patients in the 87% of cases. The 91% of parents would use TB again and would recommend it to other people in the 89% of cases. Most of the patients consider the TB a reliable tool: 70% and 12% consider the TB partly reliable.

## **Conclusion**

This is the first study investigating the attitude of parents and patients towards brace wear compliance monitor. People who experienced these objective monitoring is aware of the advantages related to it, and support its usefulness not only for clinicians, but also for patients and parents in respecting the hours prescribed without affecting the children and parents, and the patients-physician relationship. The present results should encourage the spread of these tools in daily clinical practice.

## **References**

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