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## **LBP IN ADOLESCENT TOP - LEVEL ATHLETES: IMPACT OF PSYCHOLOGICAL FACTORS**

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### **Introduction:**

Low Back Pain (LBP) is one of the most frequent pain disorders even in childhood. In young athletes, it is influenced by gender, sport type, training intensity, frequency and technique. In football players, we know that psychological characteristics might influence the risk of injury.

### **Aim:**

To assess the link between psychological distress and chronic or recurrent LBP in young athletes after match win or defeat.

### **Material and Methods:**

This is a prospective longitudinal controlled cohort study on young top-level athletes of an Italian professional soccer team from January to June 2015.

Inclusion criteria: age between 14 and 19 years old; chronic or recurrent low back pain from at least 6 months; being top level athletes of a Professional Football Club from at least 6 months.

We divided the subjects in two groups: one included the athletes with chronic or recurrent LBP (LBP group) and the second all the other healthy athletes (Control Group). Both were assessed by psychometric and quality of life scales (HADS- Hospital Anxiety and Depression Scale; SF 12-Short Form Health Survey), but only the LBP group by pathology specific scales (ODI- Oswestry Disability Index; TSK- Tampa Scale of Kinesiophobia; VAS- Visual Analogic Scale). The assessment was done at time T0 (study start), Td (after double match defeat) and Tw (after double match win). The LBP group underwent no treatment during the study period.

We compared variations of the scales among T0, Td and Tw in both groups. Primary outcome: significant variations of ODI, TSK and VAS in LBP group over time. Secondary: significant variations of HADS and SF 12 values between the two groups in T0, Td and Tw.

Statistical analysis: Friedman test (ANOVA), Fisher's exact test: when we found both significant values ( $p < 0.005$ ), we made comparison among T0, Td and Tw for each scale by Mann-Whitney test.

### **Results**

We included 46 subjects (males), mean age 16,97 years (16,96 in LBP group and 17 in Control Group). 8 drop out (2 of them LBP) for musculoskeletal injuries during the study. So finally we had 12 LBP (3 chronic and 9 recurrent) and 26 controls. As primary outcome, we found significant increase of ODI in LBP group in comparison Tw vs T0 and also a significant increase of TSK in comparison Tw vs Td. As secondary outcome, we found only at the baseline a significant lower value of SF 12 in LBP group in comparison to controls.

### **Conclusion**

In consideration of increasing disability and kinesiophobia after a winning time in top-level athletes with LBP, we may suggest that this is probably the best period to check them up clinically in order to prevent pain exacerbations.