Medical check of young baseball players: Verification of the preventive effect

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I have no financial conflicts to disclose.
We started medical check of young baseball players in North of Kyoto from 2010. To verification of the preventive effect of our medical check of young baseball players.
Medical check in 2010-2017

young baseball players 2052

Grade :  Elementally school 4 - 6 grades
Age :  10.7±0.9 (10-12) y.o.

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*N.S. in age, height, weight*
Methods

Prevention of sports injuries
- Coaches: Workshop (2/year)
- Players: Self-check
- Parents: Papers, Poster

Medical check
- Questionnaire
  - Shoulder pain (present / past)
- Physical examination
  - Tenderness (proximal humerus)
  - Hyper external rotation test
Examination Items

I. Rate of Shoulder pain in throwing
II. Rate of Tenderness of proximal humerus
III. Rate of Hyper external rotation test
Results

I. Shoulder pain

Chi-squared test

past

28.1% < 0.001
17.3%
10.6%

present

19.4% < 0.001
8.5%
3.4%

Past vs. present:


8.5%
II. Tenderness of proximal humerus

Results

Chi-squared test

< 0.001

19.4%

7.1%

4.6%
Results

III. Hyper external rotation test

$p=0.448$

Chi-squared test
Education for coaches and players had some effectiveness of prevention of baseball elbow.  
(Kida et al., 2014 Japanese)

Education for one team had resulted in diminish of elbow pain.  
(Iwahori et al., 2006 Japanese)
Our results

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sign</th>
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<td>Shoulder pain (present)</td>
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<tr>
<td>Shoulder pain (past)</td>
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<tr>
<td>Tenderness of proximal humerus</td>
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<tr>
<td>Hyper external rotation test</td>
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reliability problem or inappropriate?
Feature of education

- Almost 20% players had continued the stretching. *(Iwahori et al., 2006 Japanese)*

Self check for players

- past 1 year: 13.1%
- 86.9%

Emphasize the education for coaches/parents
The prevalence rates of shoulder pain have generally reduced year by year.

Annual medical check and educational project for young baseball players, coaches and parents would be an effective approach for preventing shoulder pain.