Injuries in Judo

Comparison of the risk profile in Japan and Europe

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Abstract

Sport injury rates of Judo in Japan were compared with the ones in Europe. 898 Japanese and 800 German recreational and competitive Judo athletes were investigated using retrospective questionnaire. The average number of injury was 2.4 per person in Germany and 1.1 in Japan. 15 % (n=120) of German and 34 % (n=300) of Japanese Judo athletes had no serious injury in the previous 3 years. 13% of all injuries were muscle injury in Germany whereas only 4 % was muscle injury in Japan. The rate of fracture was 3 % in Germany, whereas it was 14 % in Japan. 81 % of German and 70 % of Japanese Judo athletes restarted the Judo training without full recovery from injury. Less than 1% suffered from chronic muscular pain in Japan whereas in Germany it was 34%. 28 % of athletes over 13 years performed stretching in Germany, whereas 90% of athletes in Japan. This probably contributes to the lower overall injury rate in Japan

Background

Maximum efficiency and mutual benefit are the traditional main principle in Judo. International competition, however, continuously influences these bases in this originally japanese sport.

Few studies about injuries in Judo exist and available data is often limited to a certain age group or specific for a single country (2-7). Different training methods and philosophies could also cause different risk profiles in this higly competitive and physically craving sport.

Objective

To elucidate (a) the injury and training profile of judo athletes in Japan within the past 3 years (b) compare these results to European athletes (c) to provide a basis for injury prevention

Material and method

In total 1698 japanese and german recreational and competitive Judo athletes were investigated with a retrospective questionaire (Table 1). The questionaire contained 13 categories investigating about "serious" injuries treated by a medical doctor, training forms and individual preferences of the Judo athlete. The questionnaire in its basic form was first used in Germany (1) and then later translated and extended for Japan.

Table 1: Demographics

		Japan	Germany
	Total (n)	898	800
Age (years)	< 7	9	0
	7 -12	189	205
	12 - 18	317	206
	18 - 30	270	198
	> 30	113	191

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Result

Capsular and ligament lesions were the most common injuries. Knee injuries were most common in Japan (Figure 1). 81 % of German and 70 % of Japanese Judo athletes restarted the Judo training without full recovery from injury. Children in Japan had more and adults above 30 years had less injuries (Figure 2). Only 1% suffered from chronic muscular pain whereas in Germany it was 34% (Figure 3). In Japan 27% of all injuries occurred during competition, 63% during sparring (Randori) and only 3% when training technique. Four-times as many Judo athletes in Japan performed additional stretching and 3-times as many weight training.

Figure 2: Injuries in age classes

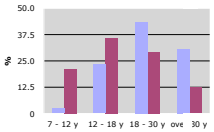
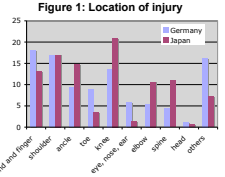


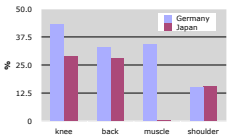
Figure 1: Location of injury



Conclusion

- Overall injury rate is lower in Japan
- Fracture frequency is doubled in Japan
- Capsule and ligament injuries are most common
- Children have a higher injury rate in Japan
- The rate for muscle injury is 4 times higher in Germany
- Additional stretching could contribute to prevent injury in Judo
- We favor Judo specifique warm up training in stead of ball games

Figure 3: Location of chronic pain



Discussion

Considering the higher amount of training it is surprising that the injury rate is much lower in Japan. Some possible reasons for this may be: (1) ball games are not suitable for warming up. (2) More japanese athletes perform stretching exercises. (3) More training develops more experience helping to prevent injuries. (4) Japanese Judo athletes use less muscle force

The lesser incidence of muscle injuries in Japan may be caused by the less force dominated style of Judo or also represent a phenomenon of social and cultural differences.

Fractures are more common in children. The increased fracture risk in Japan may depend on a more intensive training in younger years. On the contrary japanese Judo athletes above 30 years are more experienced and therfore able to prevent injury.

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