

SELF-REPORTED TRAINING METHODS OF MIXED MARTIAL ARTISTS AT A REGIONAL REALITY FIGHTING EVENT

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ABSTRACT. Amtmann, J. Self-reported training methods of mixed martial artists at a regional reality fighting event. *J. Strength Cond. Res.* 18(1):192–194. 2004.—This study surveyed 28 athletes competing at a regional mixed martial arts (MMA) event. The survey attempted to gather information regarding overall training volume, supplement use, and specific exercises used. The survey return rate was 100% (28/28). Twenty-five out of the 28 athletes supplemented their training with strength training. Overall frequency of strength training sessions/week ranged from 1–7, and overall frequency of fighting specific training sessions/week ranged from 3–12. Five out of the 28 athletes used/had used anabolic-androgenic steroids. Twelve of the MMA athletes did not perform exercises specifically for the neck musculature, and only 8 used the power clean and/or power snatch within their strength-training program. The results suggest that strength and conditioning specialists should educate MMA athletes regarding the importance of balanced training, effective exercises, and the side effects of anabolic androgenic steroid use.

KEY WORDS. mixed martial arts, reality fighting, strength training, conditioning

INTRODUCTION

Reality fighting, or mixed martial arts, is a sport that brings together numerous talented combat athletes from a variety of backgrounds. Since the initial reality fighting events began, athletes who compete in these events began to realize that training for this style of fighting must be comprehensive in nature. The sport is a mixture of various combat sports that include stand-up striking (boxing, kick-boxing, muay thai), stand-up grappling (judo, greco-roman and freestyle wrestling), and ground grappling (ju-jitsu/judo and wrestling). The successful athlete in this arena combines elite level skills with extraordinary strength and conditioning levels. This sport has come to be known by a variety of terms, including: extreme fighting, ultimate fighting, reality fighting, and mixed martial arts (MMA).

It is reported that some athletes training for MMA events must train with excessive volumes because the sport is a mixture of several styles of grappling and striking events. Also, there is concern over anabolic androgenic steroid (AAS) use in the sport. Strength training guidelines have been formally established for grappling and striking sports (2, 3, 6, 10–12, 14), but an extensive literature search produced nothing regarding methods employed by MMA athletes.

Recently, a reality fighting event was held in Kalispell, Montana. The Event Director designated time for surveys to be completed immediately following the rules meeting. The major purpose of the survey was to gain

general baseline information about the strength training practices employed by these MMA competitors. It is reported that some athletes training for MMA events train with excessive volumes because the sport is a mixture of several styles of grappling and striking sports (9). Also, there is concern over anabolic androgenic steroid (AAS) use in the sport. This survey sought to gather information regarding overall strength training and fight specific training volumes and methods employed by these athletes. The survey also gathered information regarding previous and current AAS use.

METHODS

Experimental Approach to the Problem

This was an exploratory descriptive study that sought to establish baseline information regarding the strength and conditioning practices of mixed martial artists competing at a regional reality fighting event. A comprehensive literature review revealed no previous research in this area. Surveys were used to gather information regarding strength training volume, skill (fight) specific training volume, specific exercises used, and previous and current AAS use.

Subjects

Twenty-eight athletes that competed at a regional MMA event held in Kalispell, Montana, completed surveys that questioned the athletes about their overall training methods. The competitors for the event came from Michigan, Montana, Idaho, Arizona, North Dakota, and Colorado, and ranged in age from 19–37 years. The questionnaire consisted of 3 sections, and took about 15 minutes to complete. The first section surveyed the athletes regarding overall MMA training and strength training volume. The second section surveyed the athletes regarding nutritional supplement and AAS use. The final section sought to gain information about the specific exercises the athletes used.

Previous research has shown that if the respondents of a survey know and trust the individual distributing the survey, the response rate will be higher than an unknown surveyor (15). Not only was the author well acquainted with several of the coaches, but he was competing in the event. This may be part of the reason why there was a 100% (28 out of 28) response rate.

Survey Distribution

The director of the event designated a 15-minute period of time after the rules meeting for the surveys to be distributed. The rules meeting was held about 4 hours before

the start of the event. The survey was designed with the thought that the athletes would be in a unique psychological state. That is, the survey was short, attempting to gain as much information as possible with the fewest questions possible, so the athletes would agree to complete the survey. Four of the athletes were unable to attend the rules meeting, and the surveys were mailed to them. Analysis of the data consisted of descriptive statistics that identified the frequency of responses to each item.

RESULTS

The results of the survey are as follows: 25 out of 28 fighters participated in some type of weight training program in addition to their fight specific training; the frequency (days per week) of the weight training sessions ranged from 1 to 7; 2 fighters trained 7 days per week; 0 trained 6 days per week, 4 trained 5 days per week, 5 trained 4 days per week, 7 trained 3 days per week, 6 trained two days per week, and 1 trained 1 day per week.

The frequency (sessions per week) of MMA specific training sessions ranged from 3 to 12; 1 fighter trained 12 sessions per week, 1 trained 11 sessions per week, 2 trained 10 sessions per week, 1 trained 9 sessions per week, 1 trained 8 sessions per week, 1 trained 7 sessions per week, 5 trained 6 sessions per week, 11 trained 5 sessions per week, 3 trained 4 sessions per week, and 2 trained 3 sessions per week. Twelve out of 28 athletes do not do any exercise that focuses solely on the neck musculature. Eight out of 28 athletes used the power clean and the power snatch in their programs. Only 1 athlete reported using anabolic steroids at the time of the survey/fight. Four athletes reported previous anabolic steroid use.

DISCUSSION

There are several points to be made with regard to the data gathered from the survey. First, most MMA athletes are already participating in some type of strength training program. The strength and conditioning specialist may need to convince the athletes who do not strength train that a program developed by a competent professional will only help the athlete prevent injury and improve performance. Some fighters may still be convinced of previous myths and misperceptions regarding how strength training may decrease flexibility and reduce speed of movement. The strength and conditioning specialist may have to educate the athlete about how a properly designed and executed strength and conditioning program will not have this effect, but may increase punching speed and power (2, 3).

The second point is related to overall volume of training. Overtraining is a serious consideration for the reality fight athlete because they are, literally, training intensely in multiple sports, and the risk of musculoskeletal injury increases for all levels of participation with increasing physical activity, intensity, and duration (10). Many top-level competitors in this sport train 3 times a day, 7 days per week (7).

Because of the sheer volume of training involved in MMA training, the strength and conditioning professional must make efficiency a top priority. Lansky implemented a time efficient in-season strength training program that focused on the Olympic lifts (11). The frequency of their program was kept at 1 to 2 sessions per week. A prefight

TABLE 1. Muscle strength balance at potential injury sites.*

Joint	Movement	Ratio
Shoulder	Flexion: extension	2:3
Shoulder	Internal: external rotation	3:2
Elbow	Flexion: extension	1:1
Trunk	Flexion: extension	1:1

* Note: Data from *Essentials of Strength Training and Conditioning*. Ed. T.R. Baechle. Champaign: IL: Human Kinetics.

strength training program using multi-joint lifts with a similar (low volume) frequency may be required for these athletes to maximize efficiency.

Third, boxers and MMA athletes tend to utilize the anterior musculature disproportionately more than the posterior musculature, and the further the muscle balance deviates from the guidelines in Table 1, the higher the risk for imbalance and injury (1, 16). Therefore, one of the strength and conditioning professional's priorities should be to develop a balanced program, and ensure proper ratios of strength from one muscle group to another (4).

Fourth, almost half of the athletes, 12 out of 28, did not perform exercises specifically for the neck. A properly designed and executed strength training program would include training the neck musculature in the various planes of movement because the neck is one of the top injuries in college wrestling and improving strength of the neck musculature may help to prevent neck injury in MMA as well (4, 8).

Regarding the use of AAS, only 5 out of the 28 surveyed claimed to be using, or have used, AAS. It has been reported that AAS users are aware of some of the side effects of AAS use, but many of them are unaware of the effects on the liver, heart, and circulatory system (15). Strength and conditioning coaches should educate their athletes on the physical side effects of AAS.

Finally, only 8 out of the 27 fighters utilized the power clean or the power snatch. Many strength and conditioning professionals believe Olympic style lifts and other plyometric exercises will improve explosive strength that directly transfers to sports like reality fighting (5, 6, 11-14).

PRACTICAL APPLICATIONS

Most MMA athletes do participate in some type of strength training program. This is important because a properly designed strength training program will help to prevent injury and improve overall performance. Because MMA is a mixture of several combative sports, the overall volume of training for these athletes is likely to be very high. As a result, the strength training programs need to be as efficient as possible. With this in mind, MMA athletes could benefit from strength training programs employing exercises that focus on improving the strength of all of the major muscle groups in a balanced and time-efficient manner.

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