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BREAKING DOWN THE BARRIERS: STRENGTH TRAINING IN LONG DISTANCE TRIATHLETES

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INTRODUCTION

Long distance triathletes complete large endurance training volumes with approximately half reporting to including some form of strength training (ST) in their program. However, the characteristics of this ST is currently unknown. Despite not all triathletes incorporating ST, research indicates that the completion of concurrent strength and endurance training in runners, cyclists and short course triathletes can significantly improve cycling and running economy and potentially reduce injury occurrence, likely resulting in performance improvements. Previous research has hypothesised barriers to ST in endurance athletes, however there is no empirical evidence to support such hypotheses. Therefore the primary aims of this investigation were to identify perceived barriers towards the completion of ST in long distance triathletes and ST characteristics. It was hypothesised that long distance triathletes would report limited time available for ST and fear of hypertrophy limiting their endurance performance as primary barriers to ST completion.

METHODS

Three hundred and ninety long distance triathletes (224 females, 166 males; age: 39 ± 10 y) completed a 68 question self-administered survey assessing endurance and ST characteristics, triathlon experience and perceived barriers regarding the completion of ST. Data was analysed using Stata v.14 examining descriptive statistics (mean, standard deviation), frequencies (percentages) and Chi Squared ($\chi 2$). Statistical significance was set at $p<0.05$.

RESULTS

Participants completed 14.9 ± 5.2 $h \cdot wk^{-1}$ of triathlon training with 54.6% reporting participation in a form of ST. Heavy strength (HS) training (3 – 5 sets of 1 – 6 repetitions at > 80% 1RM) was the most commonly reported form of ST (39.4%). Participants who did not complete ST reported perceived time restraints (53.1%) and lack of knowledge on exercise type, progression and technique (52.5%) as prominent perceived barriers to ST completion. Concern for increases in body weight due to ST was only reported by 5.1% of participants.

DISCUSSION

Results from this study confirm our initial hypothesis as time restraints was a primary perceived barrier preventing ST completion. A novel result of this investigation was that triathletes may not have sufficient knowledge regarding ST types and parameters. This result was supported by the majority of participants listing HS as their form of ST, however, 62.6% of HS exercises described by participants did not conform to a standard definition of HS training. In contrast to our hypothesis the concern of increasing muscle mass was not a primary perceptual barrier to ST completion.

PRACTICAL APPLICATION

Identification of these perceived barriers may be helpful for coaches, triathletes and sports scientists who want to include ST for injury prevention and performance improvement. It is recommended that an emphasis should be placed on educating both triathletes and coaches on the types, progressions and technique of strength exercises to ensure it can be correctly incorporated into a training program.