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## EFFECT OF PLYOMETRIC TRAINING ON EXPLOSIVE STRENGTH OF KAYAKERS-INVESTIGATION REVIEW REPORT

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### Abstract:

The training effects of plyometric exercise training programmes (explosive strength of upper, lower & core part of the combat or offensive sports players etc.) researchers and scholars have been frequently investigated. However, we found recent research work related the effects of training program of various training method which reviewed plyometric programmes with relevant to their training effectiveness, characteristics of the subjects involved, variables of explosive strength on experimental study. In this report study we focused the findings of more than 30 studies had searched and study for research on period that investigated the plyometric effects of various sports & games players. In this review, the studies are grouped according to their characteristics (sample of subjects, variables of explosive strength, study design, effects, etc.). Mostly of the investigations dealt with basketball, Kabaddi, powerlifting, weightlifting, water sports like rowing, kayaking & canoeing etc. Those sports related most used in explosive moments in playing on game situation this type athletes being most observed in study. In the majority of investigations, the researcher studied different variables at the same time (Muscular strength & endurance, agility, speed & explosive strength etc.). In recent studies a trend toward a physical fitness & motor fitness. In plyometric training effects on explosive strength as motor fitness variables are declared throughout a training period of 8 to 12 weeks training program. However, the positive changes in anaerobic endurance are evidenced most of past study.

**Key words:** plyometric exercise training program, anaerobic endurance & motor fitness.

### Introduction:

Sportsmen undergo various types of training to improve their performance and physical fitness. Training means a systematic and scientific programme of conditioning exercise and physical activities designed to improve the physical fitness and skills of players (Fox, 1984). Physical fitness is one of the most important factors that determine the performance level of an individual. Sports performance depends largely on physical fitness factors such as strength, speed, endurance, flexibility and various abilities requiring co-ordination. Sports activity is a

physical activity which is not possible without these motor abilities. Fitness factors are the most important for predicting athletic performance. Natural ability is the promise of potential but fundamentals are the foundation of excellence (Clarke and Clarke, 1987).

Training is the main component and the basic form of preparing the athlete for higher level of performance. It is a systematically planned preparation with the help of the exercise which realizes the main factors of influencing progress of athlete. The content of training includes all the basic types of preparation of the

sportsmen such as physical, technical, tactical and psychological levels. Through systematic training the "fitness level" of the athlete and his acquisition of vital knowledge and skill are improved.

Kayaks have been described as "those smart little, tight little, slight little, light little, thin little, slim little crafts". The sight of a kayaker going through a rapid will definitely make its Eskimo inventor (who designed such a vessel for hunting seals) turn in his icy grave! Alternately known as paddling, kayaking involves travelling on water using a kayak, a narrow boat maneuvered by a double-blade paddle. A kayak somewhat resembles a fishing boat, and usually comes fitted with a covered deck. There are two forms of kayaking - whitewater kayaking, where the paddler negotiates rapids and waterfalls, and ocean kayaking, where the kayak is piloted in open water or on a lake. Kayaks are available in solo or tandem (for one or more persons), and are famed for their ability, accessibility, adaptability and versatility; there is no waterway that these splendid "little" boats cannot negotiate. Kayaking, truly, is a delight, a more laid-back activity than rafting. Kayaking in India Though kayaking has slowly gained popularity among the adventure community; it is still an activity that's outside the mainstream in India. It remains a limited recreational activity, a niche rather than competitive sport. Nevertheless, kayaking is more popular around the southern metropolis of Bangalore, particularly on the weekends; there are trips organized on the Kali (Dandeli town), Kaveri and Narmada rivers. For the views, little beats a kayaking trip in Goa - along the coast, on the river (Mandovi, Zuari) or in the backwaters. The tranquil backwaters of Kerala are also a lure for the kayaking enthusiast. But Nashik district also in water sports try to create the name in the river of Godavari back water area those recently popular for kayaking, rowing & canoeing sports and become stars players for that areas.

#### **Methods of Data Collection:**

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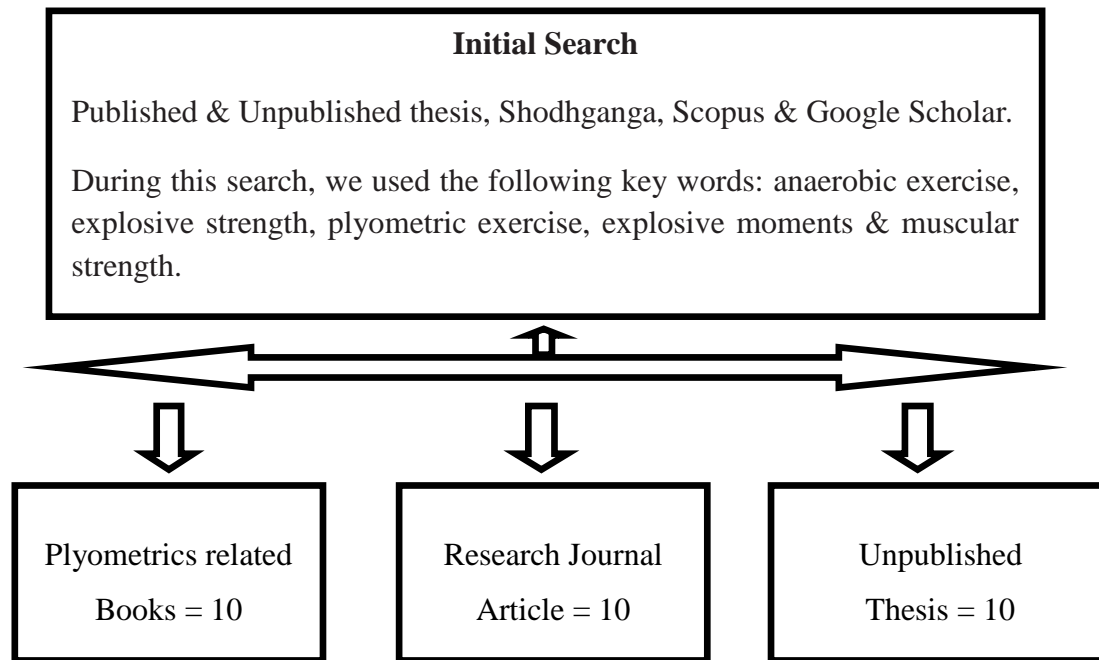
For the purpose of identifying all relevant articles we searched the following databases: Published & Unpublished thesis, Shodhganga, Scopus and Google Scholar. During this search, we used the following key words: anaerobic exercise, explosive strength, plyometric exercise, explosive moments & muscular strength combined to the terms such as effect, impact, investigation, change & influence. The articles had to meet the following criteria: to have focused on explosive strength, to have been published for research study, to have been written in English. The articles were first searched based on their titles, then summaries, and eventually based on the whole text to exclude those not fulfilling the mentioned criteria. Where the complete text could not be obtained from the basis in which a certain article was indexed, the authors of the studies were contacted. In addition to the overlap of certain articles in several bases, and by combining various key words, 30 relevant research works were found. The conclusions regarding the obtained effects (Physical fitness & motor fitness). This approach allowed the usual statistical calculations (frequencies, percentages) for every single outcome. The findings are grouped and discussed in the following text.

#### **Review of Literature:**

Characteristics of the subjects involved in the studies of the total of 30 studies analyzed in this review journal papers 10, thesis studies 10 & books 10 were conducted on sports players were conducted on a mixed sample. In general, contemporary plyometric training was basically created for players. This is because plyometric programmes are performed to explosive strength of various sports & players use certain training through coaches, physical teacher and instructors therefore require various training for strength improvement. In general, these programmes are mainly advertised (and initially developed) to target a sports population and it is

therefore logical that athletes are the most

frequent participants of explosive strength.



**Fig.1 Flowing chart for the review of literature process.**

### **Experimental Study Design:**

Present work the 30 research studies, basis for experimental research for the change of performance conducted a differential analysis of the programmes (i.e. they analyzed two or more different explosive strength & plyometric training types). This is not surprising considering that when considering training effects in plyometric programme research, in addition to the group performing the programme a control group must always also be engaged for compare the training effect with control group to investigate the change of performance.

### **Conclusion:**

Studies pinpoint focused the training effects of plyometric training programmes have generally deal with athletes those playing harsh game and examined positive effects of approximately 12-weeks long training scheduled for plyometrics and relevant training efforts on various variables those related to the physical & motor performance. In general studies confirmed training efficacy of the plyometric on explosive strength and motor-endurance variables. However, the

effects of the plyometric training on the anaerobic endurance were proven but various sports & according those sports require intensity.

In addition, and according to the growing trend of studies providing evidence on physical & motor fitness variables, we may emphasize that sports performance status will also be a focus of future investigations.

Adapted anaerobic activity programmes conducted as part of physical exercise schedules in various sports providing improvement for sports players fitness & performance will almost certainly also become a trend in the future. In a large number of cases these subjects will be motivated to participate in such exercise as it is quite likely they regularly trained plyometric training previously.

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