

陸上競技女子投擲競技者の上半身に特化した体力評価と競技力の関連性

学籍番号 4122030

氏名 高橋 七海

【目的】

陸上競技女子投擲競技者の上半身の体力評価として上半身に特化した測定項目を用いたテストの有効性を競技力との関係性から検討することを目的とする。

【方法】

被験者は陸上競技女子投擲競技者10名であった。測定項目はPJ(Push up jump:PJ)、CMPJ(Counter movement push up jump:CMPI)、SMBT(Sitting medicine ball throw:SMBT)、SCMBT(Sitting counter movement medicine ball throw:SCMBT)、BP-1RM(Bench Press- One repetition maximum)およびBP-1RMを体重(Body mass:BM)で除した値(BP/BM)を算出した。測定項目で得られた値とWA Scoerを用いて2023年度における最も優れた記録をスコアに換算し得られた値をピアソンの積立相関係数を用いて分析を行った。危険率は5%未満とした。

【結果】

CMPJ($r=0.715, p<0.05$)と競技力との間に有意な正の相関関係がみられ、PJ($r=0.455, ns$)、SMBT($r=0.274, ns$)、SCMBT($r=0.271, ns$)、BP-1RM($r=0.078, ns$)、BP/BM($r=-0.160, ns$)と競技力との間に相関関係はみられなかった。

【結論】

女子投擲競技者は男子投擲競技者と比較して軽量の投擲物を扱っており、必要とされる体力が異なる可能性があることから求められる体力が異なることが考えられる。男子投擲競技者を対象とした先行研究と本実験で競技力と関連性がみられた種目が異なることから、女子投擲競技者は男子投擲競技者よりも下半身だけでなく上半身に特化した測定項目も含めて体力を評価することが必要である可能性が考えられ、本研究の結果として陸上競技女子投擲競技者の上半身の体力評価としてCMPJが有効であることが示唆された。

Relationship between upper body-specific physical fitness assessment and competitive performance in female track and field throwers.

Student ID Number: 4122030

Name: TAKAHASHI,Nami

[Purpose]

The purpose of this study is to examine the validity of a test using measurement items specific to the upper body as an evaluation of upper body fitness in female track and field throwing athletes in relation to their competitive performance.

[Methods]

Subjects were 10 female track and field throwers. The measured items were PJ (Push up jump: PJ), CMPJ (Counter movement push up jump: CMPJ), SMBT (Sitting medicine ball throw: SMBT), SCMBT (Sitting counter movement medicine ball throw: SCMBT), BP-1RM (Bench Press- One repetition maximum), and BP/1RM divided by body mass (BM) (BP/BM) were calculated. The values obtained for the measured items and the value obtained by converting the best record in 2023 into a score using WA Scoer were analyzed using Pearson's reserve correlation coefficient. The risk rate was assumed to be less than 5%.

[Results]

There was a significant positive correlation between CMPJ ($r=0.715, p<0.05$) and athletic performance, and no correlation between PJ ($r=0.455, ns$), SMBT ($r=0.274, ns$), SCMBT ($r=0.271, ns$), BP-1RM ($r=0.078, ns$), BP/BM ($r=-0.160, ns$) and No correlation was found between competitive performance.

[Conclusion]

Female throwers handle lighter weight projectiles than male throwers, and the physical fitness required may be different because the physical fitness required may be different. Since the disciplines that were found to be related to athletic performance in the present experiment were different from those in the previous study of male throwers, it is possible that female throwers need to have their physical fitness evaluated more than male throwers, including not only lower body but also upper body-specific measures, and that the results of the present study will be used to evaluate the physical fitness of female female athletics throwers in track and field events. The results of this study suggest that the CMPJ is effective in assessing upper body fitness in female track and field throwers.