

柔道競技者における膝関節アライメントの検証

学籍番号 4123036

氏名 松岡 大輝

【目的】

本研究では、柔道競技者の膝関節アライメントの実態調査を行い、その属性との関係性を検証し、柔道競技における膝関節アライメントの基礎的知見を得ることを目的とする。

【方法】

対象者は男子実業団柔道競技者25名、男子大学生柔道競技者25名、女子実業団競技者25名、女子大学生競技者25名の計100名として、測定と質問調査を実施した。直近2ヶ月の間に、医師からの診断を受けるような怪我をしたものは除外した。測定項目は、上肢長・下肢長・膝関節アライメントを測定した。膝関節アライメントは、大腿骨内側上顆間距離を自作した測定機器を用いて測定した。膝関節アライメントの数値は、内反を正の値、外反を負の値で表記し、大腿骨内側上顆間距離が30mm以上であれば「内反膝」と定義し、内果がつかない場合は、大腿骨内側上顆が接した状態で果間距離が30mm以上であれば「外反膝」と定義した。両定義に該当しない場合は「どちらでもない」と判断した。質問紙調査は、身長・体重・階級・競技年数・競技成績・膝の既往歴を回答させた。

【結果】

内反膝が44名、外反膝が9名、正常が47名であり、過去に膝の怪我を経験している選手が半数の53人だった。その中でも、内反膝44名中22名と、外反膝9名中4名が膝に怪我をしていた。競技力と性別には有意差はみられず、階級のみ有意差が見られる結果となった。膝アライメントと各属性における相関は、体重のみ強い負の相関(-0.5459)が見られた。

【結論】

本研究では、柔道競技者の膝関節アライメントの調査を行い、属性との関係性を検証した。その結果、柔道競技者の膝関節アライメントは半数以上が内反膝や外反膝の特徴が見られた。また、階級と膝関節アライメントには、有意な関連が確認され、軽量級が内反傾向を示した。

Examination of Joint Knee Alignment in Judo Athletes

Student ID Number: 4123036

Name: MATSUOKA, Daiki

[Purpose]

This study aims to investigate the knee joint alignment of judo athletes, examine its relationship with their attributes, and establish fundamental knowledge regarding knee joint alignment in judo.

[Methods]

The participants were 100 judo athletes: 25 male corporate, 25 male university, 25 female corporate, and 25 female university athletes. Measurements were recorded and questionnaires were conducted. Athletes who had sustained injuries requiring a diagnosis by a doctor within the past 2 months were excluded.

The measurement parameters included upper limb length, lower limb length, and knee joint alignment. Knee joint alignment was measured using a custom-made device to determine the intercondylar distance of the femur. Alignment values were recorded as positive for varus and negative for valgus. Athletes were classified as having "varus knee" if their intercondylar distance was ≥ 30 mm. If the medial malleoli did not touch, they were classified as having "valgus knee" if the intercondylar distance of the femur was ≥ 30 mm when the medial femoral condyles were in contact. Athletes who did not meet either criterion were categorized as "neither."

The questionnaire was used to record data on height, weight, weight class, years of experience, competitive performance, and history of knee injury.

[Results]

Among the 100 participants, 44 had varus knees, nine had valgus knees, and 47 were categorized as neither. Notably, 53 participants had a history of knee injury. The breakdown of these 53 participants was as follows: 22 of 44 had varus knees, four of nine had valgus knees, and 27 of 47 were categorized as neither.

No significant differences were observed in relation to competitive level or sex; however, a significant difference was observed in relation to weight class. A strong negative correlation (-0.5459) was noted between knee joint alignment and body weight.

[Conclusion]

More than half of the athletes exhibited characteristics of either varus or valgus knee alignment. Furthermore, a significant association was observed between weight class and knee alignment, with lightweight athletes exhibiting a tendency toward varus knees.