

高校生自転車競技選手を対象とした3年間のトレーニング効果

—5名の未経験者全員がインターハイに出場した事例—

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研究概要

M高校の自転車競技部に2007年4月に入部した5名の選手は, 全員が自転車競技の未経験者であり, また中学校時代に他のスポーツで活躍した者もいなかった. しかし高校での3年間のトレーニングにより, 全員がインターハイに出場することができた. 本研究では, この3年間のトレーニング内容とその成果について, K大学と連携して実施した定期的な体力測定の結果とも関連づけながら紹介する. 1年目には専門的な基礎体力の向上とライディング技術の向上に主眼をおいた取り組みを行った. 2年目には, 専門的な体力の向上を目指して量・質ともに高いレベルを追求し, 3年間の中で最もハードなトレーニングを行った. 3年目には全国大会での上位入賞を目標に, 個人の各専門種目に合わせたトレーニングに重点を置いた. その結果, 全員のタイムトライアル記録は著しく改善し, 2~3年次にかけては競技会でも優れた成績を修めることができた. 体力面では, 自転車エルゴメーターによる多段階負荷運動で測定した最大運動強度, 最大酸素摂取量, OBLA 運動強度といった有酸素性作業能力が, 全選手で顕著に増加した. またデータには表せないが, 各選手の意識, 意欲, 自信といった精神的な要素がある時期に大きく変化し, それが成功の大きな要因となったと考えられた.

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Effects of three years' training for high school cyclists: Five inexperienced students participated in intermural competition

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Key Words: high school student, bicycle race, maximum oxygen intake, OBLA, hypoxic training

[Abstract]

Five cyclists who joined the bicycle racing club of M high school in April, 2007, were inexperienced in bicycle racing and also had not engaged in any other sports in junior high school. However, all of them were able to participate in a high school intermural competition following three years of training in high school. The present study, done in cooperation with K university, analyzed the content and results of the three years of training in relation to data from regular measurements of these students' physical fitness. In the first year, improvements in basic physical strength and riding technique were targeted. In the second year, aiming at professional physical strength, the training was done at a higher level in both quality and quantity. That was the most strenuous of the three years' training. The training in the third year gave priority to matching each individual's special needs, aiming at a high-ranking win in the national athletic meeting. Over the three years, the results of these five cyclists in training improved remarkably. They were able to achieve excellent results in athletic meets in their second and third years. In terms of physical fitness, the ability of all five cyclists increased considerably in aerobic activities such as maximum exercise intensity, maximum oxygen intake, and the onset of blood lactate accumulation (OBLA), as measured by multi-step test with a bicycle ergometer. Moreover, it appeared that, during the three years, the players' mental state, such as their consideration, desire, and confidence, changed greatly. That became an important factor in their success, although it was not possible to show that in the objective data.