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A Skill Profile of Elite Iranian Greco-roman Wrestlers

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Abstract: The aim of this study was to make a skill profile of elite Iranian Greco-roman wrestlers. For this purpose, five relevant techniques in 141 wrestlers in two separate groups were assessed (junior n = 71 and senior n = 70). Scoring method for each technique was filmed and reviewed in a non-competitive situation. The results showed that Iranian Greco-roman wrestlers earned high scores in all five techniques in both junior and senior groups.

Key words: Elite wrestlers % Techniques % Profile

INTRODUCTION

Wrestling has been moving ahead parallel to other sport fields in recent decades. No doubt part of the movement owes to scientific findings of different researches.

One of the important stages to prepare elite wrestlers is to technically evaluate champions. Professional tests are the key to the evaluation. The conclusions of such evaluations can be used as a criterion to compare future wrestlers of national categories.The research conclusions show that we need different tests to forecast athletes' performance and only reliance on physical fitness tests is not a suitable base to select athletes. Therefore, athletic skills should be evaluated via skill, effectiveness and efficiency tests. The background of wrestling researches in Iran shows that there are no standard and reliable assets to evaluate wrestling skills due to the nature of wrestling techniques and limitations such as technique variation and competitors' effect on technique performance and only coaches and experienced members' viewpoints separated professional and unprofessional wrestlers. Due to the problem of technique variety used by wrestlers, Physical Education Organization for the first time tried to evaluate and design skill tests and to select the most common techniques performed by wrestlers. For this purpose, experienced coaches and professionals were polled. The conclusions showed that coaches believe some wrestling techniques are performed more than the others. Therefore, tests were designed for them and three coaches were required to select a professional group and an amateur group (11 members each group) from among research population (10 to 18-year-old wrestlers in Karaj wrestling school). Then, the relevant skill questionnaires were distributed among coaches and they were required to watch wrestlers' performance films and to evaluate them precisely. This method determined the correlation between coaches' ability to primarily recognize professional from amateur wrestlers and the questionnaire ability to identify wrestlers. Each questionnaire consisted of 10 indexes and each index had zero to two scores (based on Likert 3-section scale). Based on the average of obtained scores (M = 15), a wrestler will be called professional if the average of his scores is equal or higher than 15 and he will be called an amateur if his average is below the average [1]. There are scattered researches abroad investigating competitions in which techniques were performed. But these researches lack a reliable, standard test usable in wrestling. However, wrestling professionals and researchers have turned to the modern technology to overcome research limitations on the design of wrestling skill tests and have used camera and computer software to analyze the skills so that some researchers tried to design software to analyze and value the techniques performed in wrestling competitions and others tried to compare skill performance with the computer pattern of famous champions' performance so that they can investigate wrestlers' efficiency.

In this regard, Russian wrestling professionals and researchers tried to explain concrete indexes to evaluate wrestling techniques. In a comprehensive research in 2003, Tunemann, the head of scientific researches center in Lipesick wrestling institute, investigated the qualitative development of Greco-roman and free-style championship

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in the Olympics and in the world based on a change in wrestling weights and in view of the existing ups and downs in skill performance, change and revision of wrestling rules and regulations from 1976 Montreal Olympics to 2002 competitions. In his investigations, he had professional views on elite wrestlers' individual technical-tactical performance in famous international teams. Skill development, wrestling techniques and tactics and victorious wrestlers' obtained average scores per minute are important points to be criticized and examined in this analysis. Furthermore, Tunemann showed that performance quality during competitions (i.e. the average scores obtained by victorious wrestlers per minute) decreased a little in free-style wrestling and more in Greco-roman wrestling. For the first time since 1992 until now, Greco-roman wrestlers' performance has been weaker than that of free-style wrestlers. He also showed that interesting techniques (2-3-5-score) consecutively decrease against 1-score techniques while the number of wrestling competitions with overtime has increased and comprise more than 20% of total wrestling competitions. Tunemann's investigations also showed that competition efficiency coefficient (the comparison between offensiveness quality and defensiveness quality) meets highly standards between Russia, Iran, Azerbaijan, Bulgaria and Cuba free-style wrestlers and Russia, America, Turkey, Gurjistan, Egypt and Bulgaria Greco-roman wrestlers [2].

Chamakov (1999) ranked wrestlers' competitive performance in a research in Russia. The aim of this research was to provide a new perspective to analyze wrestlers' competitive performance. He proposes that the wrestlers' competitive performances can be scored and pursued at the suitable place and time like other human activities. For some levels, the mentioned scores are in relationship to basic performances in a wrestler's activities in a competition, in part of a competition, throughout the competition and in all competitions. Aims, time, place, evaluation, main and side situation of competitions and the concept of control can be determined for each mentioned level [1]. Schultz (1992) conducted a research in America on the examination of wrestlers' skill development. He used pre-season and post-season method for this research [3]. Cipriano (1990) conducted a research on the analysis of free-style competitions in Mc Master University in Canada and examined the skills performed in competitions [4]. Orenman (1989) designed a computer program to analyze techniques performed during competitions. This program analyzes the techniques performed by the wrestler during the competition in sections like competition trivia, information on wrestler and his rival, on the start of wrestler's technique and its related scores, on the start of the rival's technique and its related scores and warnings. All data are collected during the competition and overtime. The results are presented by diagrams and tables in every minute of performance and can be compared with the results of other national or wrestlers of the same weight and competitions. The resulting diagrams show a comparison between input variables, time and the obtained scores. This program identifies every wrestler's efficiency through the level of activity, correct performance of techniques and the obtained scores in each competition [5]. Petrov *et al.* (1986) in Sophie Bulgaria designed a computer program to study the components of wrestling techniques and tactics. This software assures the effective performance of a technique through measuring place, speed and acceleration with precision of 1 cm and 0.1 second and can be practical as it can compare the results with the performance model of presented skills [6].

Stavrov *et al.* (1986) in Bulgaria designed concrete indexes to evaluate wrestling techniques [7]. Stanov and Kostov (1986) examined the rational application of different wrestling techniques and selected indexes to evaluate them [8]. Klinzing and Karpowicz (1983) measured and evaluated the performance of wrestlers' techniques [9].

Canadian Amateur Wrestling Association (1982) designed a program to provide bonus for the performance of wrestling techniques and programmed a test to evaluate the presented techniques [1]. In another research in Russia, Skopintseva (1982) designed and presented a concrete method to evaluate wrestling skills [10]. Romanov *et al.* (1982) in Bulgaria designed a criterion to evaluate Greco-roman wrestling techniques and tactics [1].

We would like to examine the skill performance of Greco-roman senior and junior wrestlers in national team as there is no enough information about wrestlers' skill performance in Iranian national teams.

MATERIALS AND METHODS

Skill tests were standardized and national criteria in the frame of a research were provided after five most common techniques performed by Greco-roman wrestlers (waist technique, hip throw, shoulder throw, gut wrench, arm drag and duck under) were selected and their reliability and concreteness were determined by Physical

Education Faculty. To conduct the research, we together with the wrestling federation informed the technical staff (head coach, bodybuilding coach and other coaches) of national Greco-roman junior and senior wrestling teams about our research topic and its importance. The subjects were all wrestlers invited to fitness camp of national teams to participate in Olympic, international, Asian competitions and national and international tournaments summoned to national camps within a year (second half of 1382 and first half of 1383). Each group consisted of at least 70 members non-randomly and goal-oriented selected from the Iranian famous wrestlers population. Scoring method was to film the skills in a non-competitive status, to review the films and to fill out the skill questionnaire. Each technique was divided into 10 stages and each stage was given two scores based on Likert 3-section scale. If each stage is performed completely and correctly, two scores will be given. If it is performed averagely, one score will be given and if the indexes are not performed or performed wrongly, zero score will be given. After collecting the data for each technique, the average scores of each technique and its profile were identified separately in two age groups (seniors and juniors) using descriptive statistics.

RESULTS

This section presents the information related to personal characteristics, body posture and the results from reviewing the film of non-competitive performance of five Greco-roman techniques in junior and senior groups (Table 1-3).

DISCUSSION AND CONCLUSION

Wrestling in comparison with other sports fields enjoys unlimited and various situations to use different muscle groups and technique performance. More than 500 wrestling techniques and the effect of rivals on their performance complicate the case. Therefore, many researchers are interested in the expansion of wrestlers' technical and tactical capabilities. But unfortunately, lack of a definite norm between Iranian wrestlers and other countries (or not presenting the norm in sport and scientific journals and consequently not gaining access to it) and lack of balance between the way of performance and the type of test provide no opportunity to directly compare the evaluation results like the present research with similar researches.

The results showed that the average scores obtained by the wrestlers in the two groups are very high. This issue can be justified in international arenas considering the non-competitive performance of techniques and Iranian wrestlers' high techniques. The findings confirm Tunemann's (2003) findings about the qualitative development of the world and Olympic free-style and Greco-roman wrestling championships with a view to the ups and downs created in the performance of skills, changes, revision of wrestling rules and regulations from Montreal Olympics to 2002 championships. Tunemann reported that Iranian wrestlers technically enjoy high standards and their competition efficiency coefficient (the comparison between offensiveness quality and defensiveness quality) is suitable [2]. As the present research score elite wrestlers' skills, it is in accordance

Table 1: Subjects' personal characteristics and body posture (M±SD)

	Variable			
Age group	Age (year)	Height (cm)	Weight (kg)	Fat (percentage)
Junior	19.7±0.8	172.8±9.5	77.4±19.5	10.8±4.1
Senior	22.7±2.3	172.9±9	81.5±20.2	11.3±3.8

Table 2: Average of lowest and highest scores obtained in juniors' five Greco-roman techniques

	Statistics			
Techniques	Number of wrestlers	Lowest score	Highest score	Average
Shoulder throw	71	18	20	19.66
Arm drag	71	19	20	19.89
Duck under	71	19	20	19.83
Gut wrench	71	19	20	19.89
Hip throw	71	18	20	19.77

Table 3: Average of lowest and highest scores obtained in seniors' five Greco-roman techniques

	Statistics			
Techniques	Number of wrestlers	Lowest score	Highest score	Average
Shoulder throw	70	19	20	19.70
Arm drag	70	18	20	19.72
Duck under	70	19	20	19.84
Gut wrench	70	19	20	19.84
Hip throw	70	18	20	19.80

with Chamakov's (1999) research results. In a research in Russia, he ranked wrestlers' competitive activities aiming at a new view to analyze wrestlers' competitive activities. He reported that wrestlers' competitive activities can be scored like their other activities. The mentioned scores for some levels are considered in relation to a wrestler's basic performances during a competition, part of a series of competitions and all competitions [1].

The present results are a little contradictory to Physical Education Organization's first attempt to introduce professional and amateur wrestlers. The contradiction is related to the average scores obtained from the non-competitive performance of skills in the groups. In the organization's research, a wrestler will be called professional if he obtains scores equal or higher than the average (M = 15) and a wrestler will be called amateur if he obtains scores lower than the average while the lowest average obtained in the techniques of the present research equals 19.66. As the two researches have the same method and skill performance, the contradiction may be due to the skill level of subjects; as they were all Iranian top wrestlers while Physical Education Organization's subjects were 10 to 18-year-old wrestlers from Karaj wrestling school [1].

Generally, although the analysis of the techniques in both age groups of Iranian Greco-roman wrestlers shows their efficiency, it cannot certainly be claimed that this factor is the only guarantee to win in international arenas; as other factors such as physical fitness and its priorities in Greco-roman wrestling, correct coaching, suitable tactic, correct evaluation of rivals, correct management of participation in fitness matches, team management and leading and other psychological and physiological factors related to wrestlers' training and physical fitness can affect a wrestler's successful performance. Although the mentioned factors are not equally important, they all should be taken into account to succeed in international arenas.

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