

RESUMO

Introdução: Esta pesquisa verificou os impactos das modificações das regras do judô dos ciclos olímpicos 2016 e 2020 no tempo total, fases temporais e relação esforço: pausa de combates internacionais, considerando as sete divisões de peso em ambos os sexos. Foram produzidos 3 artigos de revisão (uma narrativa; duas sistemáticas com metanálise) para compreender a evolução das regras e estrutura temporal de combates de judô. **Metodologia:** Analisaram-se 2.712 vídeos de combates internacionais de judô em dois ciclos olímpicos (2015-2016; 2019-2020) dos 20 primeiros atletas ranqueados por divisão de peso (ranking mundial: 30/05/2016; 16/03/2020). Assim, foram analisados 1.332 combates femininos (666/ciclo olímpico: <48kg=132; <52kg=72; <57kg=109; <63kg=96; <70kg=69; <78kg=106; >78kg=82) e 1.380 combates masculinos (690/ciclo olímpico: <60kg=123; <66kg=91; <73kg=100; <81kg=102; <90kg=94; <100kg=89; >100kg=91), que ocorreram antes da interrupção devido à pandemia COVID-19. Uma expert em judô utilizou um Software validado (Frami®, BRA) para as análises temporais no judô. A fiabilidade, com teste/reteste após uma semana, obteve concordância “excelente” (CCI=0,95-0,99) em ocorrência e tempo das fases de combate (aproximação, pegada, ataque, defesa, combate de solo e pausa). Um estudo inicial com 680 combates masculinos foi realizado para consolidar os procedimentos de análise dos combates. Posteriormente, foi realizada a coleta e análise dos dados. **Resultados:** Comparado com o ciclo 2016, os combates masculinos do ciclo 2020 ($p<0,05$): duraram menos (2020=206,9 vs. 2016=240,3 segundos); tiveram maior tempo (2020=95,1 vs. 2016=77,6 segundos) e ocorrência de *Golden Score* (GS) (2020=27% vs. 2016=6%); duraram menos nas fases de pegada, ataque, defesa e solo, e mais na pausa; tiveram menor relação esforço: pausa (2020=2,3:1 vs. 2016=3,1:1). Analisando os combates masculinos por divisão de peso e comparando com o ciclo 2016, no do ciclo 2020 ($p<0,05$): todas as divisões de peso reduziram o tempo de pegada em combates de Tempo Regular (TR); <60kg, <66kg, <81kg e <100kg reduziram o tempo em quase todas as fases do combate [exceto: aproximação (<66kg) e pausa (<66kg, <81kg, <100kg)]; <66kg reduziu o tempo de combates de GS. Comparado com o ciclo 2016, os combates femininos do ciclo 2020 ($p<0,05$): tiveram menor tempo nas fases de ataque, defesa e solo; reduziram o tempo em combates terminados no TR e em suas fases do combate (2020=155,3 vs. 2016=191,9 segundos); tiveram maior ocorrência (2020=20% vs. 2016=9%) e tempo gasto no GS (2020=122,1 vs. 2016=89,8 segundos), com fases de aproximação e pegada mais longas. Analisando os combates femininos por divisão de peso e comparando com o ciclo 2016, no do ciclo 2020 ($p<0,05$): <48kg, <63kg, <70kg e <78kg reduziram o tempo em

quase todas as fases dos combates que terminaram no TR [exceto: aproximação (<78kg), pegada (<48kg e <63kg) e solo (<70kg)]; houve aumento na ocorrência de GS nas categorias <48kg (↑18%), <63kg (↑17%) e <78kg (↑21%); houve menor variação na relação esforço: pausa (2020= 2,8:1 a 3:1 vs. 2016= 2,5:1 a 3,4:1). **Conclusão:** Diante das mudanças do comportamento temporal dos combates entre os ciclos olímpicos, sugere-se que treinadores de judô planejem estratégias técnico-táticas específicas de acordo com a regra vigente e as demandas temporais de esforço individuais.

Palavras-chave: Artes marciais. Desempenho atlético. Comportamento competitivo. Esportes de combate.

ABSTRACT

Introduction: This research verified the impacts of judo rule changes from 2016 and 2020 Olympic cycles on the total time, temporal phases and effort: pause ratio in international combats, considering the seven weight divisions in both sexes. Three review articles (one narrative; two systematics with meta-analysis) were produced to understand the evolution of the rules and temporal structure of judo combats. **Methods:** 2,712 videos of international judo combats from two Olympic cycles (2015-2016; 2019-2020) of the top 20 athletes ranked by weight division (world ranking: 05/30/2016; 03/16/2020) were analyzed. Thus, 1,332 female combats (666/Olympic cycle: <48kg=132; <52kg=72; <57kg=109; <63kg=96; <70kg=69; <78kg=106; >78kg=82) and 1,380 male combats (690/Olympic cycle: <60kg=123; <66kg=91; <73kg=100; <81kg=102; <90kg=94; <100kg=89; >100kg=91) were analyzed. The combats took place before the interruption due to the COVID-19 pandemic. A judo expert used a validated software (Frami®, BRA) for temporal analysis in judo. The reliability, through test/retest after one week, obtained “excellent” agreement (ICC=0.95-0.99) in the occurrence and time spent in the combat phases (approach, gripping, attack, defense, groundwork and pause). An initial study with 680 male combats was carried out to consolidate the analysis procedures. After that, data collection and analysis were performed. **Results:** Compared to the 2016 cycle, the male combats from 2020 cycle ($p<0.05$): spent less combat time (2020=206.9 vs. 2016=240.3 seconds); had a longer time (2020=95.1 vs. 2016=77.6 seconds) and occurrence of *Golden Score* (GS) (2020=27% vs. 2016=6%); spent less time in the gripping, attack, defense and groundwork phases, and more time in the pause; had a lower effort: pause ratio (2020=2.3:1 vs. 2016=3.1:1). Analyzing male combats by weight division and comparing with the 2016 cycle, in the 2020 cycle ($p<0.05$): all weight divisions reduced the gripping time in combats ended in the Regular Time (RT); <60kg, <66kg, <81kg and <100kg spent less time in almost all combat phases [except: approach (<66kg) and pause (<66kg, <81kg, <100kg)]; <66kg reduced GS combat time. Compared to the 2016 cycle, the female combats from 2020 cycle ($p<0.05$): spent less time in the attack, defense and groundwork phases; reduced the time in combats ended in RT and in its combat phases (2020=155.3 vs. 2016=191.9 seconds); had a higher occurrence (2020=20% vs. 2016=9%) and time spent in the GS (2020=122.1 vs. 2016=89.8 seconds), with longer approach and gripping phases. Analyzing the female combats by weight division and comparing with the 2016 cycle, in the 2020 cycle ($p<0.05$): <48kg, <63kg, <70kg and <78kg reduced the time in almost all phases of the combats ended in RT [except: approach (<78kg), gripping (<48kg and <63kg) and groundwork (<70kg)]; there was

an increase in the GS occurrence in the <48kg (↑18%), <63kg (↑17%) and <78kg (↑21%) categories; there was less variation in the effort: pause ratio (2020= 2.8:1 to 3:1 vs. 2016= 2.5:1 to 3.4:1). **Conclusion:** In view of the changes in the temporal behavior of combats between the Olympic cycles, it is suggested that judo coaches plan specific technical-tactical strategies according to the current rule and the individual temporal demands of effort.

Keywords: Martial arts. Athletic performance. Competitive behavior. Combat sports.