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Original article

Combat test to assess tactical performance in ne waza

Test de combate para evaluar el desempeño táctico en el ne waza

Teste de combate para avaliar o desempenho tático em ne waza

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ABSTRACT

The control and evaluation of the tactical preparation process of judo athlete is an essential aspect for their sporting performance. Given the need to find new forms of control and evaluation, from the demands of competitive activity, the purpose was to develop a combat test to evaluate tactical performance in the field. In the ne waza of the school judo athlete of the Isla de la Juventud, two dimensions of the tactical field were considered: the offensive

and the defensive. The fundamental empirical methods used were direct and indirect scientific observation, measurement and modeling, and the filming technique was also used. It was found that the defensive tactical performance was superior to the offensive one, but in both the low effectiveness rate was distinguished; the variability of the offensive and defensive actions was considered positive; no sanctions were recorded in both actions; the defensive tactical level was better than the offensive one; the tactical performance was evaluated as regular in both sexes; and no differences were found between the weight divisions and the sex. It was concluded that Tactical performance was characterized by a defensive tendency and low effectiveness of offensive and defensive actions in both sexes, with a predominance of the osae waza as the main element, to achieve victory; that the kansetsu waza displaced the shime waza as a second preferred option at these ages; and that offensive and defensive tactical activities were not sufficient.

Key words: tactical performance, ne waza, combat test

RESUMEN

El control y la evaluación del proceso de preparación táctica del yudoca es un aspecto esencial para su rendimiento deportivo. Ante la necesidad de encontrar nuevas formas de control y evaluación, desde las exigencias de la actividad competitiva, se tuvo como propósito elaborar un test de combate para evaluar el desempeño táctico en el ne waza de los yudocas escolares de la Isla de la Juventud, se consideraron dos dimensiones del campo táctico: el ofensivo y el defensivo. Los métodos empíricos fundamentales empleados fueron la observación científica de forma directa e indirecta, la medición y la modelación, también se utilizó la técnica de filmación. Se evidenció que el accionar táctico defensivo fue superior al ofensivo, pero en ambos se distinguió el bajo índice de efectividad; la variabilidad de las acciones ofensivas y defensivas se consideró positiva; no se registraron sanciones, en ambas acciones; el nivel táctico defensivo fue mejor que el ofensivo; el desempeño táctico fue evaluado de regular en ambos sexos; y no se encontraron diferencias entre las divisiones de pesos y el sexo. Se concluyó que el desempeño táctico se caracterizó por una tendencia defensiva y una baja efectividad de las acciones ofensivas y defensivas en ambos sexos, con

predominio del osae waza como elemento principal, para alcanzar la victoria; que el kansetsu waza desplazó al shime waza como segunda opción de preferencia en estas edades; y que la actividad táctica ofensiva y defensiva no fueron suficientes.

Palabras clave: desempeño táctico, ne waza, test de combate

RESUMO

O controle e a avaliação do processo de preparação tática do judoca continuam sendo um aspecto essencial do desempenho esportivo. Dada a necessidade de encontrar novas formas de controle e avaliação a partir das exigências da atividade competitiva, o objetivo foi desenvolver um teste de combate para avaliar o desempenho tático no ne waza dos judocas escolares da isla de la juventud. Os métodos empíricos fundamentais utilizados na pesquisa foram a observação científica direta e indireta, a medição e a modelagem, e também foi utilizada a técnica de filmagem. Ficou evidente que a ação tática defensiva foi ligeiramente superior à ofensiva, mas ambas se distinguem pela baixa taxa de eficácia. A variabilidade das ações ofensivas e defensivas é considerada positiva. Não houve sanções das funções ofensivas ou defensivas. O nível tático defensivo foi melhor que o ofensivo. O desempenho tático foi avaliado como médio em ambos os sexos. Não foram encontradas diferenças entre as divisões de peso e sexo. Conclusões: o desempenho tático foi caracterizado por uma tendência defensiva e baixa efetividade das ações ofensivas e defensivas em ambos os sexos. O osae waza predominou como o principal elemento para alcançar a vitória e o kansetsu waza deslocou o shime waza como a segunda opção preferida nessas idades. A atividade tática ofensiva e defensiva não foi suficiente, perdeu-se mais do que ganhou.

Palavras-chave: desempenho tático, ne waza, teste de combate

INTRODUCTION

The systematic control of tactical preparation in combat disciplines constitutes an aspect of great importance to consolidate sports performance, this is due to the possibility that information provides for the continuous reorientation of the process and the prediction of the future result, because although the challenge planned for the athlete becomes the basis of personalized growth, the way in which its dynamics are described over time determines the relationship between the desired final state and the adequate time to achieve it.

This understanding not only refers to the need to build systems and methodologies, or to the fact of involving a manager in the knowledge of the scientific nature of the activity, but also draws attention to the way in which these tools are referenced, from international literature as a priority order, in the training course of the high-performance athlete.

One of the shortcomings found in any of the processes associated with combat disciplines is deeply framed by the uncertainty in the athlete's performance and the technological lack of the coach, in addition to accurately understanding the interactive event between opponents (Delis, 2019; Fernández and del Monte, 2022; Galindo and Enrique, 2023; Hernández, et al., 2021; Ramón, 2024; Valencia, 2021; Vizcay , et al., 2022) , because beyond marking, it is required to lead the fight to a favorable end.

In this sense, some scientific studies aim to reveal the competition demands of judo, which is based on the variability of actions (Agostinho and Franchini, 2021; Ramón and Agudelo, 2024; Silva, et al., 2022; Soria, et al., **2023;** Stankovic , et al., 2019), the spatiotemporal characteristics of tactical actions (Blach , et al., 2021), the rules of combat (Espinosa, et al., 2019), and the positioning of competitors in the danger zones of jonay, (Miarka , et al., 2020), among other tactical aspects susceptible to control from the subjectivity of the judo athletes who face each other (Gras et al. , 2021), to carry out the comparative analysis. However, even though these researches allow to interpret certain phases of the competitive encounter, they do not consider the defensive dimension (Soria, 2023).

This situation becomes more evident in the ne waza, where the condition of one opponent over another, lying on the ground, requires another form of tactical assessment. For example, although the Comprehensive Athlete Preparation Program (PIPD) shows tools

for the evaluation of the technical-tactical level in the ne waza , the way in which the development of this activity is described does not allow for any tactical assessment, since the members, during the performance of the test, become facilitators of the opponent's action and due to this, the course of the evaluation activity deviates towards a demonstration of the technique. Added to this is the lack of understanding of the changing nature that characterizes the competitive exercise (Sánchez, 2022).

Hence, the purpose of the research was to develop a combat test to evaluate tactical performance in the ne waza of the school judo athlets of the Isla de la Juventud, two dimensions of the tactical field were considered: the offensive and the defensive.

MATERIALS AND METHODS

The population of the present study was composed of 12 judo athletes in the 13-14 years category from the " Fladio Álvarez Galán" Sports Initiation School (EIDE), in the municipality of Isla de la Juventud. The selected sample was eight judo athletes of both sexes, green belt, with four years of practice and two and three years of competitive experience, all under the classification criteria for the National School Games, Santi Spiritus 2019.

The study was descriptive, using theoretical methods such as analytical-synthetic, to examine the fundamental aspects of the tactical performance of the ne waza; the inductive-deductive method, to arrive at generalizing conclusions based on the results obtained; and the systemic-structural-functional method, for the design of the proposal.

Among the empirical methods used were the documentary review, in order to explore the references linked to the topic of study and corroborate the existence of the limitations that gave rise to and supported the need for the proposal as an objective of the research; the control limit under ne waza conditions was also assumed as a context for direct and indirect observation, supported by three experienced observers with more than 10 years of work, for which an observation protocol was developed.

The control stops were developed at the discretion of five combats per judo athlete, since this was the amount required to be among the first in the competition exercise, and aspects related to offensive and defensive forms were evaluated in situational conditions of advantage and disadvantage, a model of the competition exercise.

The SPSS 22.0 statistical package for Windows was used to process the information obtained. Descriptive data were presented as mean and standard deviation (SD). The Mann-Whitney test was performed to compare tactical performance variables between sex groups. A level of statistical significance of $p < 0.05$ was considered. The materials used were two Panasonic Full HD HC-V770 film cameras and a computer.

RESULTS & DISCUSSION

The deficiencies found through the documentary review showed, in contrast to the authors' approach regarding which indicators were useful to evaluate tactical performance, that the situations to be developed for an adequate diagnosis should have been interactive, based on the techniques mastered by the school judo athletes of the Isla de la Juventud, hence, the advantage and disadvantage nature took place in the encounters from difficult positions of one over the other, lying on the ground, with the risk of immobilization.

Once the 40 bouts were carried out as a top control, it was evident that there were no significant differences between sex groups ($p > 0.05$); however, the scores obtained placed both sexes in the M step (poor) while the defensive one in R (fair). See table 1.

Table 1. *Results of offensive and defensive tactical actions*

Sex	∑Yo	Ta .	Ae .	Ato .	∑Yo	Tad .	Ade .	Atd .
Male	44±12.7	10±2.2	3.8±1.0	1.1±0.3	58.3±11.3	9.5±1.7	4.5±0.6	1.9±0.3
Female	53.8±9.6	12.3±2.8	3±2.2	1.1±0.3	59±23	11±1.8	4.8±1.3	1.5±0.4

As for the penalties awarded during the interaction of the offensive and defensive functions in combat, the values reflected the absence of minor or serious sanctions decreed by the

referees. No significant differences were found between the sexes (p >0.05). Therefore, the penalties awarded in both functions were evaluated as E (excellent). See table 2.

Table 2. *Results of offensive and defensive penalties awarded*

Sex	P.o.o.	P.o.d.
Male	5±0	5±0
Female	5±0	5±0

Regarding the offensive and defensive effectiveness index, there were no significant differences for the indicators between sex groups (p >0.05) . In this case, the offensive effectiveness index was evaluated for M and the defensive one for R. See Table 3.

Table 3. *Results of the offensive and defensive effectiveness index*

Sex	Punctuation		Ieo .	Punctuation		Ied .
	W	I		Ade .	Adeo .	
Male	2.3±0.5	1.5±0.6	1.3±0.3	3.3±1.0	1.3±1.0	1.6±0.3
Female	1.5±1	1.5±1.3	0.9±0.6	3.3±0.5	1.5±1.0	1.5±0.4

Legend: *W: Wazari ; I: Ippon ; Ade .: Effective defensive actions; Adeo .: Effective defensive actions with offensive transition*

Table 4 reflects the offensive and defensive tactical level achieved by the subjects, and as can be seen, no significant differences were found between the groups of both sexes (p >0.05) . Therefore, according to the values obtained in the offensive and defensive tactical level, they were evaluated as M and B, respectively.

Table 4. *Results of the offensive and defensive tactical level*

Sex	N.t.o.	N.t.d.
Male	2±0	2.9±0.3
Female	2±0	2.8±0.5

In Table 5, you can see the tactical performance achieved in the ne waza, the values obtained showed that there were no significant differences between the different sexes (p >0.05), so R was evaluated.

Table 5. *Tactical performance results*

Sex	Dt
Male	2±0
Female	2±0

From this, the existence of a common problem was confirmed, since the management of preparation in both sexes was governed by the same methodological concepts; the same happened when the deficiencies of the judo PIPD were exposed, where the methodological suggestions for technical tactical work in ne waza, they moved towards the improvement of the technique to the detriment of the problem-solving activity, hence one of the logical ways to solve the need in the present investigation was proposed, through the combat test in ne waza.

Obviously, this proposal did not foresee an improvement in the tactical performance of the school judo athletes of the Isla de la Juventud, since this is not the didactic function of the resource that was provided; however, to the extent that the coach was able to evaluate the level of tactical preparation acquired during the course, he was able to individualize and reorient the process better, make better use of the method and know the state achieved with respect to the objective.

All this information was then used to improve sports results, and to achieve a higher level of preparation, it was necessary to know the difference between the states that were promoted, through the development of the tactical condition, all of which was possible if a diagnostic instrument was available.

Ne waza Combat Test Description

The test aimed to evaluate the tactical performance of school judo athlete in model competition conditions in the ne waza, and as specific objectives to guide the evaluation towards the assessment of behavior in the offensive and defensive tactical field.

Content to be evaluated

The theoretical order was evaluated through surveys, the theoretical knowledge regarding tactical action, competition rules and the regulatory function of conduct in space and time.

In practical terms, through indirect observation and measurement, offensive, defensive and counterattack tactical skills were evaluated, using the simplified model situations of the competition exercise as a context.

Rationale

The development of the test and its image as a research result achieved and perfected in its implementation, was based on the following concepts:

- Tactical performance of school judo athlete in the ne waza: the ability expressed, through the intelligent management of resources, to creatively and effectively solve problems contained in different situations in the tactical field.
- Evaluation of the tactical performance of school judo athlete in the ne waza: the process of evaluating the skills and knowledge required to creatively and effectively solve problems contained in different situations in the tactical field.
- Tactical performance: dimension referring to the result of the application of tactical skills in opposition conditions, during the solution of tactical situations.

The combat test went through four phases:

Phase 1. Organization of the participation system

Objective: To determine the placement in the participation system, so as to ensure the proportion of combats per subject.

Phase 2. Modeling the competition activity

Objective: to model competition at its best.

- Conducting combat by technical groups: starting the combat in which one of the opponents knocked down or threw the other, started by ne waza, koshi waza, ashi waza, sutemi waza, in that order; to tachi waza, once on the ground, they applied the actions of the osae waza, kansetsu waza and shime waza. The change of technical groups was carried out after each matte and the cycle was repeated continuously because it was considered that there were more groups in the tachi. waza that in the ne waza. The throw was not valid for the purpose of the test; however, it was necessary to avoid the throw with the greatest possible effort. The test was effective every time the contestants started with the work of waza.
- Duration of the exercise within the combat test *:* the combat test lasted four minutes, corresponding to the regulatory competition time designated for the category under study.
- Number of combats: To be among the first places, a total of five combats were required, a volume that corresponded to the competition form and allowed for the standardization of the exercise.
- Time to resolve the tactical situation: according to the regulations, time was unlimited, whenever work on the ground was evident by any of the contestants, the work time recorded in studies carried out and the practice observed was taken into account, a time of 15 seconds was designated.
- Presentation time: ten minutes between test bouts, in accordance with article 10, section 2 of the competition regulations.
- Competition area: the activity took place on a square surface of 14 m x 14 m, the contact area of 8 m x 8 m and safety area of 3 m on each side, which arranged the tatami differentiated by their respective colors.

- Group of officials: judges in charge of regulating the process, categorized as national or provincial referee, in relation to the number required for an official fight, the competition regulations of the International Judo Federation were applied.

Phase 3. Individual diagnosis

Objective: to measure the knowledge acquired in the theoretical and tactical order, under model conditions, of the competition exercise.

The content was selected in accordance with the preparation stage, the knowledge that was taught and evaluated, based on the planned objectives.

Indicators of the tactical action to be evaluated: PIPD.

- Controlled body regions: indicated that area or areas of the opponent's body that were under the opponent's control, in relation to the function displayed by both.
- Regions used for control: indicated the area or areas of the body used to exert control over the opponent, in relation to the function displayed by both.
- Positioning in relation to the opponent: referred to the most suitable body orientation for the role played by the subject.
- Use of direction and sense of forces: indicated the creative and efficient use of offensive or defensive action by the subject.
- Final effect of the action: referred to the solution to the tactical situation manifested in the tactical field of judo.
- Penalties: They indicated sanctions for minor or serious faults, given to the contestants, in relation to a negative attitude; or the application of actions contrary to the rules during the competitive exercise of ne waza, through the referee's gestures, these were on the offensive and on the defensive.
- Prohibited acts (minor): those actions penalized with shido that are classified in article 27, sections 6, 8, 13, 15, 17, 18, 19, 20.
- Prohibited acts (serious): those actions penalized with hansoku make direct that they classified in article 27, sections 2, 5, 7, 13.

Procedure for calculation:

Control of offensive and defensive tactical actions: sum of points of the indicators, divided by the total number of attacks or defensive actions, as the case may be. Formula to calculate offensive and defensive tactical actions:

$$A.t.o.(A.t.d.) = \frac{\sum Ind.}{T.a.(T.a.d.)}$$

Where.

- $Ato.$: Offensive tactical action.
- $Atd.$: Defensive tactical action.
- $\sum Ind.$: Summation of the indicators.
- $Ta.$: Total attacks.
- $Tad.$: Total defensive actions.

Scale: Tactical action (offensive-defensive)

- From 0-1.5 points 0- MM
- From 1.6-2.9 to 3-4.5 points - 0.5 1- M
- From 4.6-5.9 to 6-7.5 points -1.5 2- R
- From 7.6-8.9 to 9-10.5 points -2.5 3- B
- From 10.6-11.9 to 12-13.5 points 3.5 4- MB
- From 13.6-14.9 to 15 points 5- E

Penalties awarded: These were committed both offensively and defensively, and indicated the number obtained in the following case: the sum of minor and serious fouls by the assigned value (3 and 4, respectively). Formula:

$$P.o.(o-d) = \frac{(Sh * V.a.) + (Hm * V.a.)}{2}$$

Where:

- *Po* : Penalties awarded.
- *Sh* : amount of Shido .
- *Hm* : amount of Hansoku Make .
- *Va* : assigned value.

Scale: Penalties awarded (offensive-defensive)

- From 5 points 0- MM
- From 4.9 to 4 points - 1- M
- From 3.9 to 3 points - 2- R
- From 2.9 to 2 points - 3- B
- From 1.9 to 1 points 4- MB
- From 0.9 to 0 points 5- E

Effectiveness: Compliance with the tactical objective aimed at solving the problem, through tactical skills, it was assessed whether or not the athlete solved the problem faced.

Offensive effectiveness: refers to whether or not it solves the tactical problem through attacks, combinations and counterattacks.

Defensive effectiveness: refers to whether or not the tactical problem is solved by means of turns, obstructions, separations and exits.

Calculation of tactical performance.

Calculation of effectiveness: the scoring criteria were taken into account and were assessed in two ways: immobilization time (10 seconds) wazari, (20 seconds) ippon and by surrender or loss of consciousness for kansetsu and shime. waza, in both cases, ippon scoring. Therefore, the value of ten points was designated for ippon scoring, and the value of seven for wazari scoring.

For the calculation of the effective defense, two cases were assumed; the first, in which the judo athlete only defended himself from the opposing attack, and the second, in which after

the defense he went on the offensive as a higher category of defense; the value of seven points was assigned to the first case and ten points to the second. In this way, the formula was defined:

$$I.E. = \frac{\sum A.e. * V.a.}{T.a}$$

Where:

- *IE* : Effectiveness Index.
- *Ae* . : Effective actions.
- *Va* : Assigned value.
- *Ta* . : Total attacks.

Scale: effectiveness index (offensive-defensive)

- From 0-0.9 points 0- MM
- From 1-1.9 to 2-2.9 points - 0.5 1- M
- From 3-3.9 to 4-4.9 points -1.5 2- R
- From 5-5.9 to 6-6.9 points -2.5 3- B
- From 7-7.9 to 8-8.9 points 3.5 4- MB
- From 9-9.9 to 10 points 5- E

From this procedure, the individual calculation of the offensive and defensive tactical level was made.

Tactical level: referring to the final result of the evaluated in the offensive and defensive aspects. It was represented as:

$$N.tác.(o.-d.) = \frac{A.T.(o.-d.) + I.E.(o.-d.) + P.o.(o.-d.)}{3}$$

Where:

- *N.tac .(o.-d.)* : Tactical level (offensive-defensive)

Scale: Tactical level (offensive-defensive)

- From 0-0.5 points 0- MM
- From 0.6-0.9 to 1-1.5 points - 0.5 1- M
- From 1.6-1.9 to 2-2.5 points -1.5 2- R
- From 2.6-2.9 to 3-3.5 points -2.5 3- B
- From 3.6-3.9 to 4-4.5 points 3.5 4- MB
- From 4.6-4.9 to 5 points 5- E

Once the offensive and defensive tactical levels were determined, the tactical performance was calculated, the formula was proposed:

$$D.tác. = \frac{N.tác.o. + N.tác.d.}{2}$$

Where:

- *D.tac* . : Tactical performance

Scale: *Tactical Performance*

- From 0-0.5 points 0- MM
- From 0.6-0.9 to 1-1.5 points - 0.5 1- M
- From 1.6-1.9 to 2-2.5 points -1.5 2- R
- From 2.6-2.9 to 3-3.5 points -2.5 3- B
- From 3.6-3.9 to 4-4.5 points 3.5 4- MB
- From 4.6-4.9 to 5 points 5- E

Phase 4). Analysis of results

Objective: to discuss the particular and general state of the athlete evaluated, based on the diagnosis of each sector and the general tactical performance.

The judgments were in accordance with the stated purpose, taking into account the positive and negative aspects that directly affected its fulfillment and the cognitive deficiencies that occurred in the offensive and defensive order.

For this phase, it was considered necessary to make comparisons between judo athletes of the same division and between the skills of the opponents and the offensive and defensive possibilities that were required to overcome them, as well as to predict the subject's future performance.

For the test validation exercise, the Sánchez combat test (2012) was taken as a reference. A group of 22 experts was considered and questioned by competence, and 16 were selected to certify the validity of the proposal. The process carried out during three rounds of surveys allowed the evaluation of 10 indicators. The results showed ratings of very adequate and quite adequate, a consensus of criteria of 0.93 (Kendall) was achieved, which allowed pertinent adjustments to be made until the final instrument was obtained.

Tactical performance analysis in the ne Waza must be implemented from the beginning as an element to be considered by coaches in the technical and tactical planning of judo athletes. The data derived from this analysis can be used favorably by coaches to improve technical and tactical skills, and to establish tactical plans, in correspondence with the weight division, sex and age of the competitors, against opponents with very specific characteristics.

In the analysis of both offensive and defensive tactical actions, the effectiveness and frequency of execution of tactical actions, from the conception of the tactical field (Sánchez, 2022), allowed us to understand the weaknesses and strengths of the competitors, which were worked on from a continuous improvement.

In offensive tactical action, a superiority of direct attacks was found in 76% over 11% of counterattacks and 13% of combinations. In other studies (Agostinho and Franchini , 2021; Ramón and Agudelo, 2024; Silva, et al., 2022; Soria, et al., **2023;** Stankovic , et al., 2019) ,

higher volumes of attacks were observed in elite judo athletes, with an average ranging between 3.4 and 4.1 tactical actions per fight.

It is agreed with the studies of Agostinho and Franchini (2021); Miarka et al. (2020); Soria et al. **(2023**) in that the osae Waza predominated as the main factor in obtaining victory, with no significant differences between sexes.

On the other hand, during the combat it was detected that the athletes abandoned or did not complete the execution of the action and were unsure to proceed with the attack, which caused them to stand up very quickly to restart the fight. It is inferred that this behavior could have been due to the poor mastery of tactical skills in the face of the opponent's resistance and they became exhausted very quickly, since the resistance of the force was decisive in the work of the ne waza and perhaps they sought to conserve their strength, so attention had to be paid to physical preparation because it was not sufficient, and the technical repertoire for combat was limited, or it was simply a matter of taste and preference for this field.

It was the criterion of the authors of this work that a judo athlete who does not have mastery of ne waza, is always insecure in this field because all the projections and takedowns end there; the opposite for the one who does know how to perform in the field waza , because even at a disadvantage one can find victory.

The frequency of the most used techniques was kesa gatame (14), kami shiho gatame (11), juji gatame (8) and koshi jime (6), and the second and third minutes were the most effective moments; in this sense, coincidences were found with the studies of Agostinho and Franchini (2021); Miarka , et al. (2020); Silva et al. (2022); Soria et al. (**2023**) . The judo athletes relied on a variability of four techniques to obtain victory, according to the criteria of some authors such as Espinosa et al. (2019), on average the mastery of two techniques in this field was needed, which was considered a positive aspect for this research.

Regarding the defensive tactical action, 82 actions were executed, of which 68% (56) corresponded to obstructions or blocks, 14% (11) to turns, while 9% (7) to separation and

exits, respectively. Despite the existence of blocks, turns, separation and exits, these were insufficient, since in most cases, they did not prevent the effectiveness of the opponent's attacks. Similar results were found in the study by Ramón and Agudelo (2024).

It was observed on several occasions that the judo athletes gave in to the opponent's offensive, were unable to take the initiative and move on to the counter-offensive; it was found that the typical defensive form was manifested in a passive way, protecting the neck and blocking the offensive attack with the legs. Therefore, work was required with various forms of blocking, turns, bridges, separations and exits, with high resistance in the training that ensured the transition to offensive forms such as the combination and the counterattack.

During the combats, no penalties were observed for the judo athletes, a good understanding of the rules during the fight was inferred, expressed in the ability to self-regulate their behavior from the given tactical situations; this result differed from the studies by Ramón and Agudelo (2024); Soria et al. **(2023**), who referred to the number of penalties in the combats; however, it was not specified how many of them corresponded to the ne waza.

The effectiveness rate of the offensive actions was low, a different result was for the defensive actions that behaved much better, this allowed to consider that during the development of the combat of ne waza, the attitude assumed by the judo athletes was clearly defensive, with very low possibilities of going on the offensive.

From an offensive point of view, the effectiveness of the attacks could be compared with competitive analysis studies (Agostinho and Franchini , 2021; Stankovic , et al., 2019), in which the results achieved were similar, with no significant differences between sexes; other studies expressed contradictions, such as the analysis of the final rounds of international judo competitions for the Olympic ranking (Silva et al., 2022) and the World Championships and the Olympic Games (Blach et al., 2021) which had superior results, with significant differences between sexes. The result of the present study allowed to deduce that judo athletes needed a greater volume of attack in order to achieve the winning score.

It was observed that the wazari score (15) was higher than the ippon (12), a result opposite to the study by Miarka et al. (2020); Ramón and Agudelo (2024). However, the amount of wazari reflected the instability in the execution of immobilization techniques, an aspect to be perfected during training, to achieve greater effectiveness.

From a defensive point of view, the effectiveness was somewhat favorable, but there were deficiencies that affected it, such as not facing the opponent to limit his offense, the limited ability to move and apply force in the right direction during the exit, and the restricted flexibility in the movements. The findings in the present study helped the coach, from planning, to perfect the development of skills in accordance with individual characteristics and to project more successful tactical plans.

By establishing the relationship between Ato -d and Ieo -d, it was revealed that judo athletes needed to increase the number of actions to achieve effectiveness, which required competitive exercise and better physical condition to guarantee sports performance, an aspect to take into account because the energy cost of ne waza was superior to tachi waza because it was developed in unusual situational conditions. The increase in actions represented ineffectiveness in solving tactical situations, thus failing to comply with the judo principle of maximum performance with minimum effort.

The offensive and defensive tactical level allowed us to determine with greater precision the main deficiencies and to project, from the planning stage, the orientation of the contents to work collectively and individually, to correct the deficiencies and perfect the positive elements already achieved.

Of the total number of combats carried out, 60% ended in defeat, so the judo athletes lost more than they won and it did not seem to be a feasible option for the fight, now that the referees allowed more work time in the presence of combativeness; but this result was a warning of special attention that required the ne waza , with respect to the time dedicated to training, the development of technical and tactical skills and the mastery of a technical repertoire, in accordance with individual characteristics and the creation of a complete tactical plan (offensive-defensive-regulations) to obtain greater performance.

In the present study, it was found in as the hierarchical order, the first, osae waza; second, the kansetsu waza and third, the shime waza. This order seems to be an increasing trend, as similar results were found in other studies (Agostinho and Franchini , 2021; Miarka , 2020; Stankovic et al., 2019), and no significant differences were found between both sexes. In another research, Ramón and Agudelo (2024) stated that the precadet category does not include kansetsu and shime waza because it is not taught. The frequency of execution for the kansetsu waza was higher in females than in males.

In the research, several fundamental aspects of tactical performance in the ne waza were analyzed and in later studies, it is intended to overcome limitations such as determining the time to solve offensive and defensive tactical situations in combat, the time in which victory and defeat are achieved, and the frequency and duration of work in the ne waza, since the relationship between these variables gives the coach a different vision of tactical training.

CONCLUSIONS

The results of the documentary review allowed, in addition to corroborating the points on the persistence of the problem, to address its solution from the understanding of the tactical indicators, referring to the way of carrying out the actions and their effectiveness in the ne waza, from the offensive and defensive tactical field.

The diagnostic study showed that the persistence of the methodological problem had a common negative influence for both sexes on tactical performance in conditions of ne waza, since the high tendency towards defensive behavior to the detriment of offensive attitude, not only reduced the possibility of experiencing better opportunities for attack, but allowed the opponent a greater offensive attitude.

The findings in this research emphasized the importance of tactical preparation in the ne waza, from tactical situations, to promote offensive creativity and ground combat effectiveness, as a diagnostic instrument that allowed us to understand the evolution of the process. The data collected from the combat test in ne waza, can be used by trainers to refine training planning, and to properly guide preparation through the selection of means,

methods, control and evaluation of the process. The combat test showed its practical feasibility in evaluating the tactical performance of the ne waza.

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The author is responsible for writing the work and analyzing the documents.