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Original article

Tactical performance of school judo athletes in the ne waza

Desempeño táctico de judokas escolares en el ne waza

Desempenho táctico dos judokas escolares em ne waza

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ABSTRACT

The work presented, has the purpose to analyze the tactical performance of the Ne Waza in school judo athletes from the Isla de la Juventud and determine the causes that have generated the low performance in this field during the National School Games. For this purpose, a sample of 16 judo athletes of both sexes, from the categories 13-14 and 15-16 years old, was selected. The fundamental methods used in the research were documentary review, scientific observation, interview and measurement. The results showed little execution and low effectiveness in the attacks. The osae waza was the fundamental factor to obtain the victory and the kansetsu waza occupied the second hierarchical option of preference in these ages. It was corroborated the little time spent working on the ground during the combat and that the frequency and technical variability were acceptable, while the offensive and defensive tactical activity was not enough to improve the results.

Keywords: Tactical performance, ne waza, tactical preparation.



RESUMEN

En el trabajo que se presenta, se plantea como propósito analizar el desempeño táctico del ne waza en judokas escolares de la Isla de la Juventud y determinar las causas que han generado el bajo desempeño en este campo durante los Juegos Escolares Nacionales. Para este fin, se seleccionó una muestra de 16 judokas de ambos sexos, de las categorías 13-14 y 15-16 años. Los métodos fundamentales empleados en la investigación fueron la revisión documental, la observación científica, la entrevista y la medición. Los resultados mostraron poca ejecución y baja efectividad en los ataques. El osae waza fue el factor fundamental para obtener la victoria y el kansetsu waza ocupó la segunda opción jerárquica de preferencia en estas edades. Se corroboró el poco tiempo usado en el trabajo en el suelo durante el combate y que la frecuencia y variabilidad técnica fueron aceptables, mientras que la actividad táctica ofensiva y defensiva no fue suficiente para mejorar los resultados.

Palabras clave: Desempeño táctico, ne waza, preparación táctica.

SÍNTESE

O objetivo deste trabalho é analisar o desempenho táctico dos ne waza nos judocas escolares da Ilha da Juventude e determinar as causas que geraram o baixo desempenho neste campo durante os Jogos Escolares Nacionais. Para este fim, foi seleccionada uma amostra de 16 judocas de ambos os sexos, nas categorias etárias de 13-14 e 15-16 anos. Os métodos fundamentais utilizados na investigação foram a revisão documental, a observação científica, a entrevista e a medição. Os resultados mostraram má execução e baixa eficácia nos ataques. O osae waza foi o factor fundamental para obter a vitória e o kansetsu waza ocupou a segunda opção hierárquica de preferência nestas idades. Foi corroborado que pouco tempo foi gasto em trabalhos no solo durante o combate e que a frequência e variabilidade técnica eram aceitáveis, enquanto que a actividade táctica ofensiva e defensiva não foi suficiente para melhorar os resultados.

Palavras-chave: Desempenho táctico, ne waza, preparação táctica.

INTRODUCTION

Since judo emerged in 1882, 42 techniques have been codified, of which 40 have been modified, structured into five groups of eight techniques each, which is known as the Gokyo or system of 5 groups of tachi waza. The ne waza was not covered in this program.

The ne waza had its origin years after the creation of judo and its movements were not implicit in it, since these took place through the Kosen, (Rodríguez, 2020). These competitions, which were created by the professors and university students of Japan at that time, consist of combats on the ground; this way of competing quickly caught on in Japanese judo and in the world, which is why it appears in the Nage No Kazeizo del Kodokan program in 1920, where it is codified into three groups for the first time: osae waza, shime waza and kansetsu waza, as they are currently known.



For this reason, judo is made up of two fields: tachi waza and ne waza. In 1997, the it was published the technical system known as the 100 Kodokan techniques and structured into 68 techniques for the Tachi waza or judo up and 32 for the ne waza or judo down. Subsequently, the International Judo Federation (IJF) creates or accepts another system of techniques, but there are no significant variations.

As can be seen, there are more techniques in tachi waza than in the ne waza. That same balance is what is taken to classes to structure the content and practice time. In this way, if it is had two hours of training, it is had ten minutes for the ne waza work; therefore, athletes express their fears based on the techniques of ne waza.

Cuban judo has had a ballast in exogenous and endogenous competition performance, this ballast has gravitated in the deficient performance of competitions on the ground and the causes are multifactorial; for this reason, one of the objectives of our research is to point out the same, in such a way that an approximation of the causes of it is obtained, since the effects have been seen and they do not correspond to objective reality.

The ne waza is a field little studied by researchers as it has been preceded by tachi waza that includes a greater volume of techniques, is where the combat begins and enjoys a greater preference for judo athletes, due to the spectacularity that the projections manifest; this has been corroborated by various authors such as Miarka *et al.* (2014, 2020) and Sacripanti (2015).

In the specialized literature, it can be distinguished that the tactical aspect of the judoka preparation process is raised ambiguously in some cases and in others, oriented towards the work of tachi waza. However, there are several researches Franchini *et al.* (2008), Carratalá *et al.* (2010), Bocioaca (2014), Segedi *et al.* (2014), Sacripanti (2015), Boguszewski (2010, 2016), Osipov *et al.* (2016), Lima *et al.* (2018), Stankovic *et al.* (2019), Miarka *et al.* (2014, 2020) and Agostinho and Franchini (2021) related to competitive analysis in different age categories that take into account indicators that include work on the ground, which are taken as reference in this research.

The indicators used in the previous researches do not allow characterizing the competitive exercise of the ne waza and therefore, the tactical performance of judo athletes, so that a better understanding of this modality or style of combat is possible.

Despite the low performance of the judo athletes from La Isla de la Juventud and the high results that other provinces present in this sport, it can be seen that the theoretical conception that supports the training process in the school category corresponding to the period 2013-2021 is insufficient, in terms of methodological treatment of tactical preparation in combat situations in the ne waza, because in none of these documents are tactical contents adjusted to this purpose evident.

The stated technical-tactical objective presents as the unique feature the relationship of degrees kyu and lacks from systematicity, since the work is oriented only to delve into the basic elements of judo up and judo down and in this way, the tactical purpose of the judo activity is denied; furthermore, no test is suggested for the evaluation and control of this tactical process of judo combat on the ground, in particular.



It is considered that, despite the updating and technological progress in Cuban judo, there is a general consensus at the provincial level about the absence of full mastery of the minimum skills that allow successfully solving tactical combat situations in the ne waza.

It was possible to verify in the training and competitions that the school judo athletes showed a limited tactical performance in the ne waza, which even led to losing advantageous opportunities to achieve victory against his/her opponent and undermined the purpose of obtaining sporting results that would guarantee individual and social recognition.

That is why it is stated as the purposes of the research: to analyze the tactical performance of the ne waza in school judo athletes from La Isla de la Juventud and determine the causes that generate low performance in this field, during the National School Games.

MATERIALS AND METHODS

The research was carried out in the context of the National Judo School Games, celebrated in Holguín in 2018, with the representation of La Isla de la Juventud delegation. It was worked with a sample of 31 subjects that represents 100% of the population and was composed of 16 judo athletes of both sexes, in the age categories 13-14 and 15-16 years old, that represented 52% and 15 judo experts, selected for their expertise, through the "Delphy" expert criteria method. The first ones were subjected to observation during the competitive exercise and the second ones, an interview was applied to them to know the causes that are attributed to the low tactical performance in the ne waza.

Research methods and techniques of the theoretical, empirical and statistical-mathematical level were used, which allowed the determination of qualitative and quantitative elements that favored the fulfillment of the objectives.

Through the bibliographic review, the indicators for the present research were determined, these were:

- the manifestation of the tactical field,
- the predominance of ne waza types,
- time-movement,
- temporal structure of offensive activity,
- the frequency and variability of techniques and
- the result.

According to Copello (2003), the tactical field is made up of types of situations such as (direct attacks, defensive actions, combinations and counterattacks) in which tactical actions are applied. In this research, the frequency in which they were expressed was quantified.



Regarding the types of ne waza, reference was made to the osae waza (immobilizations), shime waza (chokes) and kansetsu waza (dislocations), with this indicator the hierarchical order that the sample, object of study, chose to achieve victory was identified. Meanwhile, with the time-movement indicator, the frequency and total work time on the ground was determined, for this purpose the combat time was divided into each minute (Miarka, 2014) and in this way it was perceived where it is greater the volume.

The frequency was determined by the number of times the work on the ground was evidenced, and the time taken in seconds was controlled from the moment the work on the ground began until the referee decreed the mate or soremade. Regarding the frequency of techniques used, the number of times the executed technique was repeated and the number of techniques used for variability were quantified. The result indicator was expressed in the victories and defeats obtained during the competitive exercise in the ne waza.

A protocol was prepared for the observation of the manifestations of the indicators during the combat that was submitted to the consideration of three previously prepared observers. The combats corresponding to the sample under study were recorded using two Panasonic Full HD HC-V770 video cameras.

RESULTS AND DISCUSSION

A total of 32 bouts were observed, which were mainly concentrated in the knockout stage and quarterfinals, of which only 15 had demonstrations in the ne waza, which represented 46.8%. As can be seen in Table 1, the difference in the total number of fights between the sexes was not significant, a similar result was shown in the fights in the ne waza. The observers counted 14 attacks, of which only three were effective for 12.5%; likewise, the difference between the sexes was not significant and a total of five defensive actions were counted (Table 1).

Table 1. - Description of the competitive activity in the ne waza.

Categories/Sexes	Total bouts	Total combats in the ne waza	Total attacks	Total effective attacks	Total Defensive Actions
13-14 years/ male	8	2	3	1	0
13-14 years/ female	9	4	5	1	2
15-16 years/ male	6	4	3	1	1
15-16 years/ female	9	5	3	0	2
Totals	32	15	14	3	5



As can be seen in Figure 1, of the types of situations that make up the tactical field of judo in the ne waza there was a superiority of direct attacks with respect to defensive actions, combinations and counterattacks and the offensive and defensive roles that were manifested during combat were taken into account. Comparative studies in World Championships and Olympic Games (Boguszewski, 2010) revealed differences between the number of offensive attacks; in the present study, the total number of attacks was lower than in previous studies. In the female sex, this behavior was superior to the opposite sex, which revealed that they do more to achieve victory in this field, this behavior was different in the study by Segedi (2014). However, combinations and counterattacks were not even considered by both genders.

Regarding defensive actions, these were manifested in opposition to the adversary's attacks; the observers considered that despite the existence of blocks and exits, these were insufficient, since in most cases they did not prevent the effectiveness of the opponent's attacks. In the specialized review, no references were found in this regard (Figure 1).

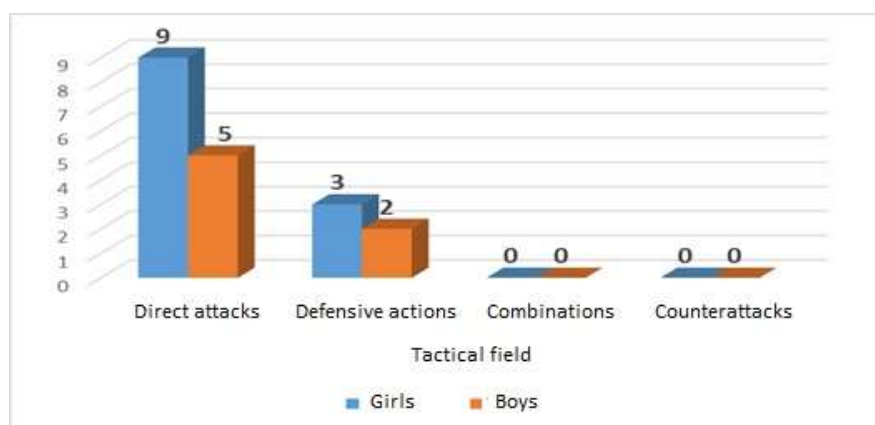


Fig. 1. - Frequency of the types of tactical field situations by sex

In Figure 2, it can be seen as results that the hierarchical order of the types of ne waza was the following: osae waza, kansetsu waza and shime waza , with significant superiority of the osae waza with respect to others (Boguszewski, 2016; Miarka *et al.*, 2017, 2020 and Agostinho and Franchini, 2021).

No significant differences were found between both sexes, the frequency of execution for the kansetsu waza was better for females than males, for the shime waza the differences between both sexes were minimal (Figure 2).



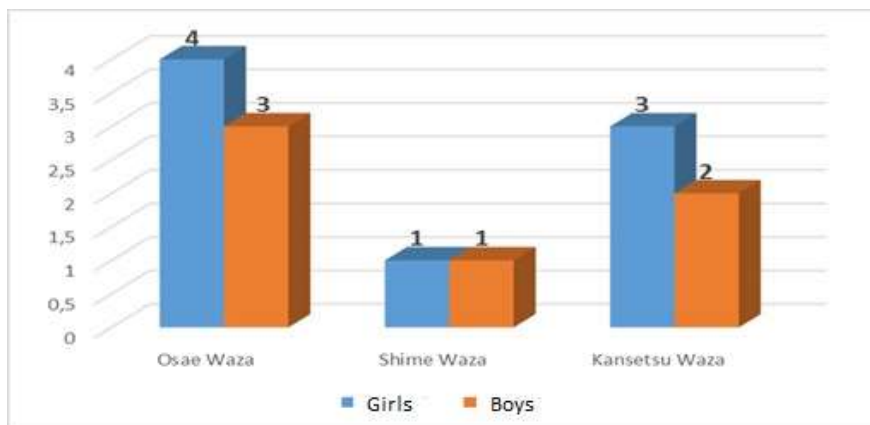


Fig. 2. - Frequency of the types of ne waza for sex

Regarding the types of predominant ne waza, some research refers to these as the most used techniques (Miarka *et al.*, 2014 and Boguszewski, 2010, 2016), but the purpose is the same, to reveal the hierarchical order in which judo athletes use it as a main factor to obtain victory. These studies allow to know the trend nature of this behavior in different age and sex categories. The study carried out by Boguszewski (2010) shows that the osae waza is more effective in men than in women and that there are no significant differences between both sexes, in terms of the effectiveness of the actions.

On the other hand, there are several authors (Franchini *et al.*, 2013; Miarka *et al.*, 2014, 2020; Boguszewski, 2016; Sterkowicz-Przybycién *et al.*, 2017; coswig *et al.*, 2018; Stankovic *et al.*, 2019 and Agostinho and Franchini, 2020) who have oriented their studies to the spatio-temporal variable in competitions, this has allowed the establishment of indicators for their evaluation. In the present research, time-movement is assumed as an indicator (Miarka, 2020).

Regarding the time-movement indicator (Figure 3), it was observed that between the second and third minute of combat the highest frequency of work on the ground was concentrated as a consequence of the transition from judo foot to the ground, in which the conditions for the continuity of work and the difference between sexes was not significant.

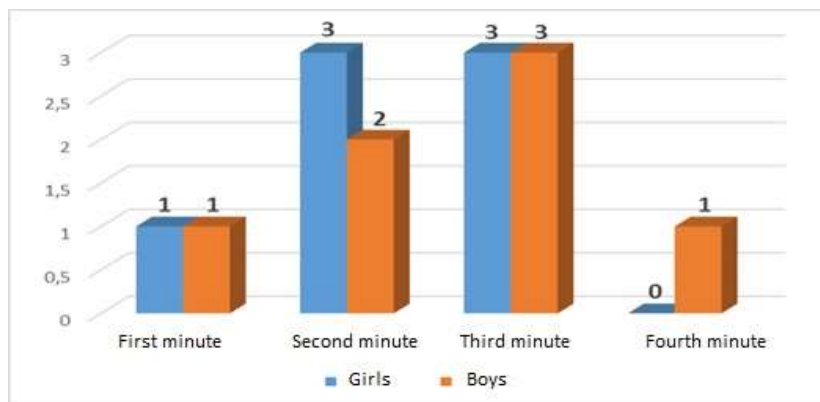


Fig. 3. - Frequency of work in the ne waza



Regarding the total working time in the ne waza , as can be seen in Figure 4, there is a greater volume between the second and third minute of combat and significant differences were found between sexes; an ascending pattern was revealed for the first three minutes in both sexes, this could be due to the prolongation of the attacks that tactical actions have as a characteristic in this field (Figure 4).

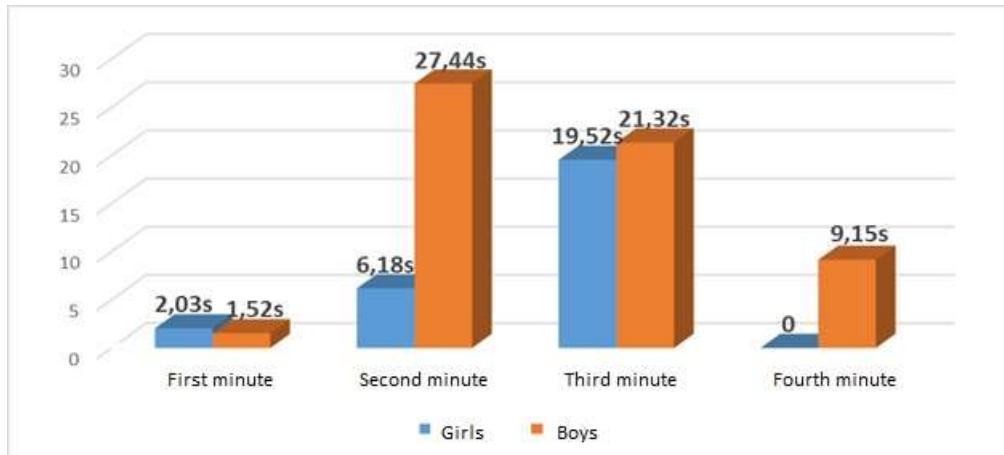


Fig. 4. - Working time in the ne waza

Figure 5 shows the offensive activity of the judo athletes in the third minute, but the effectiveness of the attacks was 16 %. However, in the second minute the offensive activity was lower, but a higher effectiveness was reached (40%). The frequency of techniques most used by judo athletes from La Isla de la Juventud in tactical actions were: kesa cat me (4), kami shiho cat me (3), juji gatame (4) and koshi jime (2) and the first and third were the most effective. To obtain victory during combat, the judo athletes relied on a variability of four techniques; in this sense, mastery of two techniques in this field is needed on average, according to the criteria of some authors, which is why it is considered a positive aspect for this research (Figure 5).

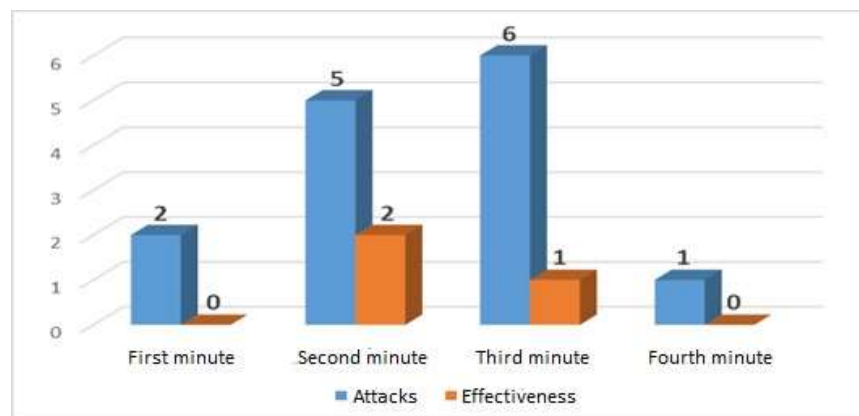


Fig. 5.- Temporal structure of offensive activity



Regarding the indicator result of tactical performance in the ne waza, three victories were achieved, two of them as a result of projections that give continuity to the work on the ground; however, five losses were recorded, so the judo athletes lost more than they won. As a result of the interview carried out with the experts, regarding the causes for which the Cuban judo athletes are not very efficient and effective in the work of ne waza, it was valued:

- The lack of demand associated with the lack of interest on the part of the coaches.
- Insufficient training of coaches on the job in the ne waza.
- The scarce updated information on the subject, as well as the courses that are convened on it.
- Most coaches don't like the job of ne waza and transmit the same attitude to their disciples who in many cases become coaches.
- The few competitions of ne waza in general about turning and immobilization, turns and chokes and turns and lock.
- The technical evaluation of the pedagogical objectives in the School Games was considered superficial.
- The required time was not devoted to practice.
- The insufficient use of special and specific exercises of the ne waza in training sessions, since greater importance is given to tachi waza, when looking for the spectacularity of the projections.
- The poor culture on the part of the referees, since there was a tendency to decree the mate in combats when the competitors go to the ne waza and they didn't let him work.
- Insufficient awareness of the importance of the offensive and defensive work of judo athletes in the ne waza for comprehensive training in this sport and the influence of its results, since it greatly improves the skills and abilities for tachi waza.

The purpose of this research was to analyze the tactical performance of school judo athletes and the causes of poor performance in this field. The selected sample executed very few fights and only three subjects reached the quarterfinals, but they finished before the fight time; Furthermore, the difference between sex was not significant, which coincides with the studies by Miarka *et al.* (2014, 2020).

Regarding the manifestation of the tactical field in the ne waza, the results in the research showed a greater orientation towards direct attacks and defensive actions and the constant change of roles that manifests itself during combat. They refer that this is the typical behavior of the ne waza and suggest conducting studies with a larger population. Although females reached a higher rate than males, the difference was minimal.



As combined actions and counterattacks are not reflected, it is inferred that it was due to the complexity of movements, which requires skill and dexterity to execute tactical actions with an intelligent use of energy expenditure and for this, the judo athletes were not properly prepared. In the opinion of the authors, special attention should have been paid to the work of combined actions and counterattacks, as well as the physical preparation required for this field.

Regarding the predominance of the types of ne waza, observers distinguished the osae waza as a fundamental factor to obtain victory (Sterkowicz-Przybycién *et al.*, 2017), followed by kansetsu waza and the shime waza, this evidenced the order of preference of the sample under study that was verified as a hierarchical trend appreciated in other studies

(Boguszewski, 2016). It was inferred that the result influenced the development of abilities and skills achieved in the training of judo athletes, in addition to the simplicity in the execution of the movements. This result coincided with comparative studies where high percentages were found in the execution of osae waza. (Boguszewski, 2016; Miarka *et al.*, 2014, 2020 and Agostinho and Franchini, 2021). It was considered that, in the training of judo athletes, an adequate relationship must be established between the types of ne waza that ensure the correct performance in this field.

With respect to time-movement, the observers determined that between the second and third minute of combat the greatest frequency of work was concentrated on the ground, similar deductions were found in other studies Boguszewski (2016), Sterkowicz-Przybycién *et al.* (2017) and Coswig *et al.* (2018) it was stated that these results were due to the fact that the judo athletes used the first minute to decipher the tactical possibilities of the adversary or to hide their own, it was also considered that the judo athlete felt superior to his/her rival in this field, therefore, he/she used it as a fundamental way to obtain victory. It could also happen that once the advantage was reached by means of a projection, he dedicated himself to using the ne waza as a tactic to retain that advantage.

Regarding the work time on the ground, 27.73 and 59.43 seconds were obtained for females and males respectively, significant differences were found between sexes, work time represented between 15.4 % and 33 % of the regulation combat time; similar results were found in other comparative studies where it is recognized that standing combat periods are longer compared to ground combat. It was observed that the judo athletes started the attack, but did not always finish it, they missed the opportunities that, from the foot-ground transition, were presented to them.

Regarding the frequency of techniques used in the attack, the observers found that there were no significant differences between them (the sample size and the number of attacks carried out were considered); excelled the kesa gatame and the juji gatame as the most preferred in these age categories. In the research carried out, the kansetsu and shime techniques were taken into account waza unlike other studios (Miarka *et al.*, 2014 and Boguszewski, 2016).



The effectiveness of the attacks made was 23 %, three victories were obtained, two of them by immobilization and one by dislocation; in this case, the tactical offensive activity was reflected through the use of arm and neck levers and movements from the right side of the opponent towards his/her head, all the attacks were carried out from the right side; regarding the tactical defense, hand and hip blocks, separation of the grips and leg hooks were used as positive aspects and as negative aspects, they did not face the opponent and the little use of turns. Despite all the effort, it was not enough to avoid the five defeats, which was considered to be influenced by the misperception of the combat situation and the poor use of force.

From the variability of techniques, according to some studies, it is suggested that in order to have a good result in the ne waza it is required mastering in at least two techniques, in the present study four techniques were identified, which prove to be the most popular for this age category, hence the frequency values in their use.

The possible causes that led to the low tactical performance of the school judo athletes during the combat in the ne waza are elements to be taken into consideration by the coaches, this allows to understand how the training process of their disciples is developing in this field.

CONCLUSIONS

The obtained results demonstrated the tactical performance of school judo athletes with low combat development in the ne waza, few attacks and its low effectiveness without significant differences between the sexes. Osae waza prevailed as a fundamental factor to obtain victory and kansetsu waza displaced shime waza as the second preferred hierarchical option at these ages. The little time devoted to work on the ground during combat, as well as the frequency of work, was ratified. The frequency and technical variability were valued as acceptable. The offensive and defensive tactical activity was not enough, more was lost than gained.

The findings in this research emphasized the importance of tactical preparation in the ne waza. The data collected from the national events were used by the coaches to improve the planning of the training plans and thus achieve an adequate orientation of the preparation through the selection of means, methods, control and evaluation of the process.

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Conflicts of interest:

The authors declare not to have any interest conflicts.

Contribution of the authors:

The authors have participated in the writing of the work and analysis of the documents.



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