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*Translated from the original in Spanish*

**Original article**

## **Methodological guide for the teaching of steps and runs in rhythmic gymnastics. Multimedia**


### **Guía metodológica para la enseñanza de los pasos y carreras en gimnasia rítmica. Multimedia**

### **Guia metodológico para o ensino de passos e corridas em ginástica rítmica. Multimídia**

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## ABSTRACT

**Introduction:** The research work shown in this article offers a response to the lack of guiding documents for the direction of the teaching-learning process of the steps and runs as technical elements of connection in the competitive exercises of rhythmic gymnastics; which, in turn, constitutes support for the application of the Comprehensive Program for the Preparation of the Athlete (PIPD 2017-2020) and training support for the coaches in charge of preparing the gymnasts.

**Objective:** This directed the objective of the research to the elaboration of a methodological guide in multimedia format that serves the trainers in the process of teaching these elements contained in the PIPD.

**Materials and methods:** The theoretical level research methods used (analysis and synthesis, system approach) and the empirical level (survey, interview and specialist criteria, document analysis and video observation).

**Results:** The aggravated affectation of teaching by the various acting methodological technical models is demonstrated.

**Conclusions:** It is concluded by stating that a methodological guide must contain the technical description and its teaching methodology, the most common errors, elements of special preparation for achievement and recommendations.

**Keywords:** Methodological guide; steps; runs; rhythmic gymnastics

## RESUMEN

**Introducción:** El trabajo de investigación que se muestra en este artículo, ofrece una respuesta a la carencia de documentos orientadores para el direccionamiento del proceso de enseñanza aprendizaje de los pasos y carreras como elementos técnicos de enlace en los ejercicios competitivos de gimnasia rítmica; lo que a su vez, constituye un apoyo a la aplicación del Programa Integral de Preparación del Deportista (PIPD 2017-2020) y de soporte de capacitación a las entrenadoras encargadas de la preparación de las gimnastas.

**Objetivo:** Ello encaminó el objetivo de la investigación a la elaboración de una guía metodológica en formato multimedia que sirva a las entrenadoras en el proceso de enseñanza de estos elementos contenidos en el PIPD.

**Materiales y métodos:** Los métodos de investigación de nivel teórico utilizados (análisis y síntesis, enfoque de sistema) y los de nivel empírico (la encuesta, la entrevista y el criterio de especialista, el análisis de documentos y la observación de videos).

**Resultados:** Se demuestra la afectación agravada de la enseñanza por los diversos modelos técnicos metodológicos actuantes.

**Conclusiones:** Se concluye planteando que una guía metodológica debe contener la descripción técnica y su metodología de enseñanza, los errores más comunes, elementos de preparación especial para la consecución y las recomendaciones.

**Palabras clave:** Guía metodológica; Pasos; Carreras; Gimnasia rítmica.



## RESUMO

**Introdução:** O trabalho de pesquisa mostrado neste artigo, oferece uma resposta à falta de documentos orientadores para a direção do processo de ensino-aprendizagem das etapas e corridas como elementos técnicos de ligação nos exercícios competitivos da ginástica rítmica; o que, por sua vez, constitui um apoio para a aplicação do Programa Integral de Preparação do Atleta (PIPD 2017-2020) e de apoio ao treinamento dos treinadores encarregados da preparação dos ginastas.

**Objetivo:** Isto levou o objetivo da pesquisa à elaboração de um guia metodológico em formato multimídia que serve aos treinadores no processo de ensino destes elementos contidos no PIPD.

**Materiais e métodos:** Os métodos de pesquisa utilizados foram teóricos (análise e síntese, abordagem de sistema) e empíricos (pesquisa, entrevista e critérios especializados, análise de documentos e observação de vídeo).

**Resultados:** A afetação agravada do ensino pelos vários modelos metodológicos de atuação técnica é demonstrada.

**Conclusões:** Conclui-se propondo que um guia metodológico deve conter a descrição técnica e sua metodologia de ensino, os erros mais comuns, elementos de preparação especial para a realização e recomendações.

**Palavras-chave:** Guia metodológico; Passos; Corrida; Ginástica rítmica.

## INTRODUCTION

Rhythmic gymnastics, as a coordination sport and competitive art, is characterized by high levels of complex coordination. As a basis for their specialization, the technical level that is required is very high and the general and special physical development exercises constitute premises for the strengthening of the various physical capacities that allow creating and accelerating the learning process and fixation of the different techniques and movements through sports training (Ducas, 2020).

As well expressed in the article "A few brushstrokes on the Rhythmic code" [Rhythmic News]. (2018). if you are approaching rhythmic gymnastics for the first time, or even if you are already an amateur, really understanding what happens on the mat is extremely complicated. The risks, the falls, the throws, the collaborations, the handling, the inaccuracies, the placement of each part of the body, every little thing is reflected in the scores. The whole process is very complex. The coaches take all these rules into account to create the best exercise their gymnasts can defend. On the other hand, the judges must record everything that happens on the mat.

Rhythmic gymnastics arrives in Cuba after the triumph of the Revolution; work begins for its introduction in 1964 through the training of teachers, given by the Czechoslovakian technician Jarmila Slezakova, implementing a series of courses with the participation of all Physical Education teachers in the country (O'Farril and Santo, 1982).

From this moment on, the continuous training and preparation of the Cuban trainers of this sport has been a premise for guaranteeing the quality of the preparation of the generations of gymnasts, for which the National Commission of Rhythmic Gymnastics has systematically implemented the technical-methodological improvement of all its human resources.



On the other hand, the theoretical, technical and methodological systematization of the preparation of Cuban gymnasts in rhythmic gymnastics has been raised through calls for competitions, compulsory exercises within competitive programs and general guidelines for preparation until the 1980s. This is constituted first in the High-Performance subsystems in 1985 and later in the PIPD (Athlete Preparation Programs) in 1988. Since then, these documents have guided Cuban coaches in conducting the preparation of their gymnasts from the earliest ages.

The existence of programs, which reflect, among other aspects, objectives and contents for each category according to chronological age, led to having a unified criterion at the country level and establishing a methodological logic for teaching the contents of the school of gymnastic movements. as a guide for all female coaches in the country.

However, the access and production of specific bibliography has not always been coupled to the level of updating the sport or the elaborated sports preparation programs. This aspect has been claimed by the coaches of the country as they do not have all the support tools for the interpretation and application of the content of the PIPD. In correspondence with what has been planted studies have been carried out, although it is still insufficient, such is the case of the research by *González, et. to the. (2019)* which proposes a tool for the work of the trainers of the pioneer category to favor the temporary perception of the gymnasts from Matanzas. Another of the studies is that of *Sivila et.al. (2020)*, which offers a group of exercises that allow correcting the body balance difficulty with a 90° leg in the seven-year-old category (pioneril). Both are aimed at the work of coaches with young girls, but studies of this type are still in demand.

As part of the contents of the RG PIPD, since its emergence in 1988 the elements of the steps and runs body technique appear. These are distributed by units from the first categories; however, this document does not offer the methodology for teaching these elements or its technique, since this is not its purpose or function.

On the other hand, the existing specific bibliography is not at the access of Cuban trainers; the steps and runs, as well as the rest of the technical elements of the movement school of this sport, are described differently and with different terminology. This has resulted in a lack of uniformity in the knowledge that trainers have about the technique and methodology of teaching PIPD content. Also, the coexistence of various technical-methodological models supported by what is stated in this bibliography, in the contents received as part of their training either as coaches or as former gymnasts of this sport.

This situation is more marked in the link elements, where the steps and runs are located, which, although they do not constitute technical difficulty, favor the movements and unions par excellence within the content of the competitive exercise. These skills show that a gymnast who makes a diverse and excellent use of these technical elements within the execution of their exercises possesses a technical mastery. In correspondence with the above, a study is carried out by *Leandro and Ávila (2017)*, on the variety and diversity in the composition of the individual exercises of the gymnasts where the elements that compose it are quantified and classified; but it is not specified about the steps and runs that serve as a link. Therefore, this type of study is considered necessary and important.



The steps and runs are elements of body technique that belong to Group II of the fundamental section of the classification of rhythmic gymnastics exercises (O'Farril and Santo, 1982). for what they constitute one of the links of the integral preparation of the gymnasts.

In addition, it is stated that the steps are cyclical movements of the lower extremities, which differ from one another by their length, the support time and the step frequency with which it is performed.

Canalda (1988), defines the steps and runs as displacements and places them as basic elements of hands-free exercises since they allow the relationship with the rest of the groups of elements and the use of the floor area in all its directions and senses. She also argues that learning a body technique will allow the progressive incorporation of the different devices, since the gymnast will know the different body elements with which she can combine them, focusing her attention on the latter.

In the technical analyzes carried out by the National Rhythmic Gymnastics Commission for national competitions and routes, one of the difficulties that persists and is present throughout the country has to do with the poor technique and variability of the steps and runs that comprise the competitive exercises of gymnasts. This difficulty is also verified in the results of the tests applied to the youth gymnasts to integrate the registration of the national children's and youth teams, in contradiction with the objectives and contents that must have expired according to the PIPD.

Within the technological demands determined by the Technical Commission of sport, the need to complement the PIPD with technical-methodological guidance materials for coaches has been latent. In relation to this, methodological technical courses have been taught at different levels, but they still do not fully satisfy the needs raised by the trainers regarding this issue.

Everything expressed previously allowed to define as a problematic situation, the insufficiencies in the teaching of the contents of body technique (steps and runs) of the PIPD of RG, which limits the correct technique and variability in the executions of the gymnasts.

It was plotted as objective of the research: to elaborate a methodological guide in multimedia format that allows a better methodological technical orientation of the trainers in the teaching of the steps and runs contained in the PIPD of RG.

An analysis was made of the contributions that authors such as: O'Farril and Santo, (1982), Mendizábal (1985), Canalda (1988), Fung (1995), make in their works on steps and runs as elements of body technique. of rhythmic gymnastics. On the other hand, Ilisástigui (2013), proposed general methodological recommendations for teaching the elements of body technique.

In relation to the preparation of digital bibliographic support materials for the application of the PIPD, the multimedia on the technical description and the teaching methodologies of the technical group of balances stands out (Navarro & Ilisástigui, 2010).

This analysis allowed the verification of the classification of the steps and runs as elements of body technique, as well as the reconciliation of the technical description and predominant terminology to identify each component of this technical group, according



to the criteria of the different authors and the one used by the PIPD of RG, as one of the bases to be used as content of the methodological guide to be designed.

## **MATERIALS AND METHODS**

Both theoretical methods (analysis and synthesis and system approach) and empirical methods (review of documents, observation of videos, application of survey, interview and specialist criteria) were taken into account, as well as the percentage calculation as a statistical procedure and fashion.

Documentary review: it allowed the study, analysis and interpretation of official documents that govern this sport (Code of Points and the PIPD 2017-2020, as well as the existing bibliography in this regard, which had to be complemented with the bibliographic analysis of the characteristics of the steps and runs and their relationship with other technical groups of this sport; it also led to the study of the different existing descriptions of the steps and runs according to the criteria of each analyzed author.

The survey technique was applied to 26 rhythmic gymnastics coaches participating in the National Methodological Technical Course held in Havana in February 2020. Two coaches were present for each province of the country except Isla de la Juventud; for the selection of the sample, being a rhythmic gymnastics coach was taken into account, since there were coaches with more years of experience, graduates of Physical Culture, and others still in training as future graduates in Physical Culture.

Interview: it was applied according to a predetermined order, following a uniform procedure for all the subjects.

For the application of this, the indispensable organizational conditions were created that made possible the compartmentalization of the answers and what was methodologically oriented for the opening or beginning, central part or development and final part or closing of the interview were taken into account.

The objective pursued with it was to know the criteria of these professionals in relation to what aspects to take into account in the conception of the proposal, which allowed decision-making regarding the determination of the constituent elements of multimedia (steps and runs). For this, 5 highly competent specialists were interviewed.

The theoretical viability of the proposal was evaluated according to the criteria of these specialists. The feasibility is related to the applicability, but it is more precise, because it depends on whether, due to the present circumstances, it is likely to be applied or not, so it may be that the proposal is applicable and with it obtain very satisfactory results, but under the conditions current development of the executors or for economic reasons its application is not viable.

A questionnaire was used to collect the criteria, which was developed from the conceptual definition of feasibility, so the applicability of the proposal was first determined (as proposed, partially or with modifications) and then it was specified the feasibility of its application.



For the selection of the specialists, the following aspects were taken into account: Belonging to the technical commission of rhythmic gymnastics, being international judges, academic qualifications or scientific degree.

For the processing of the results, the percentage calculation and the mode were used as statistics.

## RESULTS AND DISCUSSION

As a result of the application of the survey as part of the diagnosis about the level of knowledge that the coaches have about the technique and methodology of teaching the steps and runs contained in the PIPD of RG, it was possible to verify:

- Lack of uniformity in the vision of the technique of execution of the steps and their forms of teaching.
- Variety in the ways of acquiring this knowledge, prioritizing the transfer of experiences from one coach to another and from the life of a gymnast to that of a coach.

The importance of gymnasts mastering the correct technique and methodology of the steps and runs is recognized, it also coincides in their use as linking elements, ways of moving on the mat, as basic elements of body technique. On the other hand, there is recognition of the need to have methodological tools to support the PIPD of RG.

On the other hand, the authors of this article also analyzed criteria on multimedia as a means of teaching. About this *Izquierdo et al. (2017)*, consider that educational software is one of the fundamental pillars to achieve teaching in the absence of the teacher and within these the multimedia on which the study is concentrated, with animations, graphics, texts and exercises that enrich the contents.

Studies have shown that multimedia as a tool in the teaching-learning process allows students (or users) to interact, learn faster, and knowledge to be more durable. We agree with the aforementioned authors, stating that it is necessary for the contents to be understood by students or users, accused of multimedia learning accompanied by motivation.

Another of the studies carried out, but in the medical sciences, is that of *Cabrera et al. (2018)*, where they propose a multimedia for the teaching of imaging in the Medicine career. The consulted studies refer to other branches of science, but thus to the teaching of technical elements in sport. For this reason, this proposal is considered important specifically for rhythmic gymnastics.

### Constituent elements of the multimedia of the steps and runs

The multimedia that is presented is made up of the navigation links that allow to navigate without any problem through the software, showing the corresponding content (constituent elements) according to the topic, by left clicking on it. There are also the easily accessible buttons:

- ·Back - allows to go back to the previous page from wherever you are.





- Audio- allows to activate and deactivate the music if the user wishes.
- Help- displays the help page where navigation through the executable is explained.
- Minimize - minimizes the executable.
- Close - allows to exit the executable.

This way in which multimedia has been conceived allows systematizing and homogenizing the teaching process learning of the steps and runs in rhythmic gymnastics.

In the diagnosis made, the criteria of the specialists gave rise to the determination of the constitutive elements of the multimedia of the steps and runs, ensuring that they supported the methodological systematization of the contents. The elements determined were:

1. Location of steps and runs within the classification of exercises in rhythmic gymnastics.
2. Conceptual definition of the body group.
3. Methodological recommendations to be taken into account for all body technique groups.
4. Methodological recommendations to be taken into account for the technical group of steps.
5. Technical description of the steps and their teaching methodology.
6. Filmic sample of the execution technique of the different steps and careers contained in the PIPD and its teaching methodology.
7. List of common errors and form of rectification.

### **Location of steps and runs within the classification of rhythmic gymnastics exercises**

The steps and runs are elements of body technique that belong to Group II of the fundamental section of the classification of rhythmic gymnastics exercises, for which they constitute one of the links of the integral preparation of gymnasts (O'Farril & Santo, 1982).

### **Conceptual definition of body group**

The steps are cyclical movements of the lower limbs.

One step from another is differentiated by its length, the support time and its frequency (O'Farril & Santo, 1982).

Methodological recommendations to take into account for all the groups of the corporal technique (Ilisástigui, 2013).



- Teaching must be preceded by obtaining the level of physical preparation necessary for optimal assimilation of the technique.
- The acquisition of gymnastic postural habits must precede the teaching of any technical element.
- In all cases, compliance with the phases or parts of the exercise must be required (initial position or introductory phase, development or fundamental or main phase and final position).
- The help of the trainer should favor the execution of the exercise, not hinder it.
- Accuracy in the execution and compliance with the attributes of the gymnastic technique must be demanded at all times.
- The execution must be guided by rhythmic guides (counting, clapping, music), emphasizing the accents of movement.
- The elements will be taught in isolation first, and then can be combined with other movement structures.
- Before teaching any step, the battement must be mastered. tendu
- Leg spreads should be taught side first, front, and rear last.
- Methodological recommendations to be taken into account for the technical group of steps and runs:
  - The study of the leg work in the support in the first and second phase should be carried out.
  - Subsequently, the study of the steps and runs in the center will be carried out.
  - Work in the 2nd phase or group (duo, trio, quartets) can be used as help levels for the assimilation of the steps.
  - Once the step or run technique is learned, they can join other technical elements.
  - Before teaching any step, the different battement variants must be mastered. tendu (Stretch, double or pose, quilt).
  - The steps should be taught first on the floor and then in relevé.
  - First, the work of the legs will be isolated from that of the arms, and then they will be combined.
  - When the legs go in l'air in the execution of the steps, the balance position to which it contributes must first be mastered.
  - The spring steps, spring runs will be taught after learning the rest of the steps of the same name.



## Technical description of the steps and careers and their teaching methodology

In this constitutive element of the multimedia, a detailed description of the execution technique of the steps and runs that are contained in the PIPD and its possible most frequent variants is presented.

As part of the design of the methodological guide, 27 steps and 2 careers were described, all cited in the PIPD of GR (2017-2020) (Table 1).

**Table 1.** - List of steps and runs offered in the multimedia

Steps	Race
Side joint step, Joint step, Side dot step, Front dot step, Back dot step	spring stroke
The step T	Half point race
Gymnastic march	
Change step	
Steps in relevé with extended legs, Steps in relevé with bent legs	
Cross steps	
Sharp step	
Step hop	
Side jeté step , Front jeté step, Back jeté step	
Extended high pass a la second , Extended high pass devant	
Step spring	
High step bent back	
Elasticized step	
Extended and flexed high step change step	
Waltz step	
Gallop	
Temps lié par terre en dedans	
Tempe lié in dehors and in dedans	
Chassé a la seconde	

Next, one of the steps and one of the studied runs is presented as an example. In the same way, the same procedure was carried out with each of these elements (steps and runs) cited in the PIPD of GR (2017-2020), in the elaborate media. Together with this technical description, the filmic sample of said elements is also offered.

### Union step

From the third or fifth position of the legs, the Battement step is taken Tendú posé devant (in front, passing through the fourth position of the legs), transferring the weight of the body to leave the leg in the battement position tendu derriere (dotted leaning



back) to later join the initial position. Metric 2/4 or 4/4. This step is taught in unit I of the 6-year-old category.

If it is going to be done with backward displacement, it is the same technique, but it begins with tendú derriere (back) transferring the weight of the body to leave the leg in the battement position tendu devant (dotted leaning forward) to later join the initial position.

As for the posture of the body, it should be with the chin up, shoulder blades tight, chest erect, shoulders down, abdomen in, hips facing, legs extended, all the time the feet should slide from tip to heel. If it moves forward make sure that the battement tendu devant east with the knee out and the heel up; if you back the knee out and the heel looking down on the tendu derriere.

They stand out as fundamental errors, the non-transfer of the weight of the body from one leg to another towards the one that is serving as support, which brings with it the flexion of the legs in the union of the same; Frequent errors are also not isolating the work of the legs, supplementary movements of the hip and trunk, loss of posture, the support of the feet heel to toe and not sliding the feet.

It precedes in its teaching in exercises with support, leg positions, battements tendú (front and back), the battement tendú possé. It must be taught in parts in the 1st and 2nd phase and then in the center, it begins its teaching with hands on the waist and later other arm positions will be incorporated.

The filming of the execution of these steps and runs is also shown, as well as the variants and preparatory exercises.

Likewise, the most frequent errors that appear in the execution of each step and the exercises that precede them in their teaching are detailed, in their methodological order, which in themselves constitute, together with the general and specific indications of the steps, the teaching methodology.

### **Half point run**

From third leg position, battement tendú to the front in relevé and the weight of the body is transferred to the leg of the step to perform the new step with the leg that remains behind, the legs are semi-flexed and it is performed more frequently than the flexed semi-pointe steps, the trunk may have a slight forward lean, arms may assume different positions. Metric 2/2 or 2/4. It is taught in unit III of category six years.

It can be with a rectilinear or circular path.

Maintain the correct posture in general at all times, ensure that the relevé is always raised to the maximum and that the knees are not flexed too much, there must be a coordinated movement of the arms and legs and the inclination of the trunk cannot be too exaggerated.

The lack of coordination of the movement of the legs and arms, low relevé, lack of pointing of the feet, lack of coordination between the execution time and the count or music used are identified as fundamental errors.



Leg positions are basic, the battement tendu devant, the flexed relevé steps, the different arm positions that are used in their learning.

List of common errors:

- Movement mismatch between the components of the step-in question.
- Mismatch of movement and count, accent, tempo, rhythm, and character of music.
- Inconsistency between the movement of the legs and arms.
- Loss of posture.
- The insufficient relevé in the steps that require it.
- Heel to toe support.
- Unnecessary oscillation in the vertical axis due to loss of relevé in the execution of the step.
- Lack of placement endeavors in the legs in the steps that require it.
- Problem transferring body weight.
- Imbalances.
- Loss of muscular tone of the trunk and legs in the execution of falls (tombé) and in semi-flexions (demiplié ).
- Lack of independence of leg work with unnecessary movements of the trunk and hips.
- Do not occupy the corresponding initial positions depending on the step to be carried out.
- Do not perform the separation of the legs by battements tendu.
- Rectification forms:
- Perform the step with a demonstration by the teacher.
- Perform the steps with a count, emphasizing the key moments of the movement.
- Do the step first with the work of the legs, then the arms and then coordinate the work of the arms and legs.
- Ensure that gymnasts maintain correct posture (chin up, neck elongated, shoulder blades tight, chest erect, abdomen tucked in, hips squared, legs rotated and...
- Strengthen the ankles to ensure that the relevé reaches its maximum height.
- Perform exercises to strengthen the heel lifters that guarantee relevé. Eg: In the first phase, second phase and center, in sixth, first or other leg positions, do relevé in different execution times and with different relevé holding times. You



can also do this exercise (first phase) with the support of the metatarsal and the fingers on the first or second rung of the trellis or on a bench or beam, the heel free from the support and below it, to perform the relevé elevation. It could also be done with overweight, with one or two feet.

- Require the correct execution of the relay at each step.
- Work the rotations of the legs from the floor exercises, the exercises with support from the first and second phase and then in the center.
- Perform the battement correctly battement tendú posé on the bar so that the gymnast learns to transfer the weight of the body (from one leg to the other).
- When there is a problem of imbalance, require him to maintain the correct posture and use as an auxiliary means the work of those same steps on smaller surfaces (beam, on a line).
- Maintain muscle tone throughout the exercise, requiring you to maintain the required muscle tone in the legs, buttocks and trunk.
- Demand the correct posture every time you go to perform a step.
- Require at all times to go through the first leg position in the change of support (tendú cloche on the bar), except in steps that require closed leg positions. Example: Acute step.

Together with the participation of the specialists, the technical descriptions were made while these elements and the methodological steps for teaching were filmed. The multimedia produced was presented to the national technical group of this sport, as well as to the National Technical Commission; the specialists agreed that multimedia was well founded, that it had all the elements for conducting and teaching steps and runs; They also stated that its implementation is feasible. The consultation with the National Technical Commission allowed the enrichment of the proposal and reaching its final version.

## CONCLUSIONS

Taking into account the criteria of specialists consulted, as well as the authors in relation to what the methodological guide should contain for the trainers in charge of directing the gymnastic preparation process in relation to the steps and runs, allowed the enrichment of the proposal and reach its final version, determining the constituent elements of the methodological technical guide expressed in the multimedia.

The constituent elements of the methodological guide were: Location of the steps and runs within the classification of exercises in rhythmic gymnastics, conceptual definition of the body group, methodological recommendations to be taken into account for all body technique groups, methodological recommendations to be taken into account for the technical group of steps, technical description of the steps and their teaching methodology, filmic sample of the execution technique of the different steps and careers contained in the PIPD and its teaching methodology, list of common errors and form of rectification



It was determined that the most effective way to generalize the proposal to the population of trainers was to create a multimedia tutorial, organized taking into account the constituent elements of the methodological guide, to which film materials were added to support the technical descriptions. and methodologies.

The training carried out for the use of the methodological guide in multimedia format, led to the generalization of the proposal with great acceptance by the trainers.

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**Conflict of interest statement:**

The authors declare that there are no conflicts of interest.

**Authorship contribution:**

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



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