

Original Article

Perception of visually impaired athletes and trail running guides toward barriers in the organization of competitions

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Abstract:

Trail running is a growing sport discipline, due among other circumstances to the incorporation of people with visual functional diversity (VFD). However, this participation is not exempt from barriers that hinder inclusion, which depend on the organizers of the events. The objective of this work was to determine the perception of athletes with visual functional diversity and trail running guides toward the barriers related to the management model implemented by the organization of these competitions. The study was carried out with 26 athletes with visual functional diversity (19 men and 7 women) and 23 guides (18 men and 5 women), who participated in the National Trail Running Cup of 2016 for people with VFD. A non-experimental, descriptive and sectional design was used, from the descriptive phenomenological approach. The applied study instrument was a semi-structured interview, using the qualitative content analysis as an analytical strategy, through the qualitative treatment software NVIVO. From the analysis of the data obtained, the following barriers related to the organization of the trail running events were detected: difficulties in the registration process, difficulties related to the guide, lack of training and specific personnel in the organization, lack of information on the paths and the need to adapt the rules. The inclusive participation of people with visual functional diversity in trail running will be possible when specific actions are incorporated from the organizers of these competitions, to allow the implementation of inclusive management models.

Key words: inclusive management, trail running, functional visual diversity.

Introduction

Running is one of the physical activities that has increased the most in recent years, considering it a popular phenomenon since it is qualified as an accessible practice, for the ease with which anyone can practice it, since only sports shoes are needed (Ocete, Pérez, Pinilla & Polo, 2016).

Within the different races, there is a modality that is carried out in the natural environment, called trail running, which consists of running along paths or natural areas that are characterized by their marked unevenness and technical difficulty. Athletes run on tracks and unpaved roads, trails, ravines, etc., and the course of the race is no more than 50% paved road for vehicles. The minimum distance for a circuit to be considered for official competition, except in the case of the Vertical Kilometer, is 21 kilometers, with a minimum elevation gain of 1,000 meters (SAMCS, 2018 p.15). The latest report of the Spanish Association for Mountain and Climbing Sports (SAMCS, 2018), indicates that approximately 1,200 competitions are conducted in Spain each year, of which one third correspond to sports events organized by mountain associations, clubs, Autonomous Federations, SAMCS, etc., including scoring competitions for the circuits of the International Federation in Spain. A review on the last decade about the number of competitions carried out in Spain, as well as athletes (SAMCS) participating in trail running competitions, indicate that this is a growing phenomenon, even greater than in other neighboring countries (SAMCS, 2018).

This increase in participants is due in part to the incorporation of people with visual functional diversity (VFD), which thanks to the collaboration between the SAMCS and the Spanish Federation of Sports for the Blind (SFSB), has allowed their participation in an integrated way in official competitions of the SAMCS, in the adapted modality called National Trail Running Cup (NTRC) (SAMCS, 2018; González, 2004). This modality consists of making a marked mountain route, with a distance between 15 and 30 kilometres and a ramp between 500 and 1400 positive meters (the terrain will have a technical difficulty of I / II degree). During the competition, athletes with VFD participate in teams or bars (so-called due to the directional bar which is used as an aid to run) composed of three participants, who run holding a directional bar, according to the following rule: in the front there is a guide, in the middle the athlete with VFD (B1: total blindness or B2: partial blindness) and at the end another guide or another VFD athlete with low vision (exclusively a B2). The main guide indicates the

characteristics of the terrain, while the VFD guide (B2) that closes the group gives stability to the group and complements the orders of the main guide (SFSB, 2015).

The incorporation of people with VFD to trail running, reflects a social reality that promotes the inclusion of people with diversity in physical activities in the natural environment, which from this inclusive perspective, understands that nature is a space for sports practice that must be accessible and shared by the whole society (Arribas, 2012, Alcaraz, Fernández, Caballero & Sáenz-López, 2017). And as other mountaineers, they look for the same objectives when doing this type of sports in nature: the personal challenge, overcoming goals and overcoming physical and natural limits (Bueno, 2012; Carrascosa, 2013).

The organizers of running competitions, whether in the mountains or in urban spaces, must bear in mind that they have a social responsibility, in two ways: to promote healthy habits for an increasingly sedentary society, and contribute to the inclusion of different people who live in an increasingly heterogeneous society (due to their gender, religion, origin, race, social status, functional diversity, etc.) (Ocete et al., 2016). Regarding the second aim, it should be noted that adapted sports are becoming an inclusion tool, since they allow participating in a common and egalitarian status, where people with disabilities can share experiences and demonstrate their abilities (Davis, Rocco-Dillon, Grenier, Martinez, & Aenchbacher, 2012).

In the specific case of trail running races, according to existing rules by the SAMCS (2018) and SFSB (2015), the organizers must provide all the information about the event to the participants, guarantee the safety of the participants and agents involved in the race and safeguarding the integrity of the environment. Therefore, the entities organizing a trail running race must carry out specific actions that allow the participation of people with VFD in equality with other athletes, making an inclusive design of the activity and considering the totality of the people and their circumstances (Ocete et al., 2016). To this end, it is necessary to know the barriers to participation, understanding these as "those factors in the environment of a person who, when present or absent, limit the operation or generate disability. These include aspects such as an inaccessible physical environment, lack of adequate healthcare technology, negative attitudes of the population regarding disability, and also services, systems and policies that do not exist or hinder the participation of people." (World Health Organization, 2001, p.209).

The first barrier encountered is the lack of research that analyzes this problem in depth. Only the study of Alcaraz, Caballero & Fernández-Gavira (2017) is available, which analyzes the perception of athletes with VFD and guides on the sensitization towards this group by the organizers of trail running races, finding that there are good intentions from the members of the organizations of the running races, but also a lack of specific training for them. There are other related studies, such as the one conducted by Ocete et al. (2016), in popular running races, in which they detected as the main constraint from the organizers part, a lack of awareness and ignorance about the athletes with VFD, lack of accessible spaces, and a lack of human resources (Ocete et al., 2016). The role of the guide has also been analyzed, pointing out in various studies (Bueno, 2012; Carrascosa, 2013) that it should be recognized as an indispensable element without which the athlete with VFD cannot carry out his sports practice. Another barrier found in several investigations (Arribas, 2012, De Potter, 2006, Pérez-Tejero & Ocete, 2015) is the difficulty in communicating between the organization of a running race and the athlete with VFD, since the information that usually predominates is the visual channel (web, informative leaflets on paper, etc.) and there is a lack of use of adapted information (e.g. auditory, tactile or braille systems).

With respect to this barrier, there is the need for athletes with VFD to have detailed and adapted information of the race track, since one of the difficulties for people with VFD (especially with total blindness) is to orient themselves in space and move around (Navarrete, 2009). Regarding the technical training of people who organize a running race with athletes with visual diversity, several studies indicate that training is usually very scarce, making it difficult to implement specific measures to improve accessibility (Mank, 2000; Navarrete, 2009; Martínez-Ferrer, Guerra & Barnet, 2013). Finally, among the barriers detected in a general way in trail running competitions with VFD people, it is worth pointing out the lack of adaptation of the different rules (Arribas, 2012; Ocete et al., 2016; Rubio, Ruiz & Martínez, 2015) All of the above mentioned motivated the present study, which aimed to determine the perception of athletes with visual functional diversity and trail running guides toward barriers in the organization of competitions in this modality.

Material & methods

Design - The present study used as a research strategy the descriptive phenomenological approach, whose main focus of attention is the study of the everyday vital experience, understood as the non-conceptualized or categorized experience (Báez, 2014; Bárbera & Inciarte, 2012; Castillo & Sáenz-López, 2008; Creswell, 2007). In line with the methodological approach, a descriptive and sectional non-experimental design was carried out, making a single measurement of the selected sample. Therefore, the study was conducted from the perspective of qualitative work, selected to be the one that best fits the proposed study (Anguera, 1995, Ballester, 2001), since it deals with the reality understood by the people who experience it, narrated and described by the protagonists (Rodríguez, Gil, García & Etxeberria, 1995).

Participants - The participants in the present study were selected by non-probability convenience sampling, since they were federated athletes in the sport discipline of trail running at the Spanish Federation of Sports for

the Blind (FEDC) in 2016, including both runners with some type of VFD (B1: total blindness and B2: partial blindness) and guide runners.

From a total sample of 57 subjects who met the established inclusion criteria (being federated in the trail running discipline within the SAMCS organization, participating in any of the three running races of the national trail running championship, having a minimum experience in running races before 2016 and wishing to participate in the present study), 49 subjects participated finally in the investigation, due to the use of the strategy called theoretical sampling (Strauss & Corbin, 2002), which consists in establishing a series of initial participants in the study, who after a first analysis of the data obtained, would progressively expand to new study cases, until reaching a saturation of the data found. The final study population was 49 subjects: 26 athletes (B1 and B2) and 23 guides. The sociodemographic data of the study population are the following: in the group of athletes (people with visual functional diversity B1 and B2) there were 19 men and 7 women, aged between 29 and 58 years (mean = 45.07; standard deviation = 7.57), and the guide group consisted of 18 men and 5 women, with ages between 24 and 66 years (mean = 45.73, standard deviation = 11.5). Of the total sample, 53% (B1 or B2 athletes and guides) were between 36 and 50 years old.

Instrument - The instrument used in the present study was the semi-structured interview, generating knowledge of reality from an interaction between the interviewer and the interviewee (Hernández, Fernández & Baptista, 2006). The dynamics of the interview were not limited to asking designed questions; it was also intended to define the answer to our object of study from the experiences of the agents involved.

The interviews used in the data collection process of this research had a script created ad-hoc to respond to the objective of the study, with two versions adapted to the two types of recipients: athlete with visual functional diversity and guide. This script was prepared and reviewed by three expert researchers, who established a first version, which was tested during a pilot test; this generated modifications, and a second final version was established. The interviews consisted of 12 initial questions related to two dimensions: organization and barriers to the participation in trail running races. Some of the questions asked to the guides were: what elements do you consider necessary for a race to be accessible to people with visual disabilities? Indicate the limitations and barriers encountered when exercising as a guide in trails running races, if any; do you consider the information presented to the runners with visual functional diversity and to the guides to be adequate for an optimal performance in the race?

Procedure for collecting results - Before the interviews, the subjects who participated in the study were contacted to inform them about the study and to obtain the informed consent to participate in the study. The interviews were conducted from January to March 2016, face to face, telephone or videoconference, depending on the access to the participants. They had an average duration of 30 minutes, and were recorded according to the nature of the performance (Sony recorder ICD-PX820 in the case of face to face and telephone interviews, and with Mac Quick Time Player application for videoconferences).

Analysis of the results - After the registration of the data, the interviews recorded in audio or video were transcribed using the Express Scribe computer program. The analysis strategy used was applied qualitative content analysis, which was based on the phases established by Andreú (2002) and Krippendorff (2004), as well as the mixed category development model (deductive and inductive) proposed by Mayring (2002). First, the deductive approach was applied to formulate the main categories of analysis (dimensions) based on the objectives of the study and the question protocol of the semi-structured interview, and subsequently the inductive approach was used to formulate the categories and subcategories of analysis from the participants' emerging ideas about their perceptions toward VFD accessibility in mountain races. The software used for the qualitative analysis was NVIVO version 9 as a tool to systematize the process of content analysis. The following table shows the phases of the process, as well as the actions carried out (Table 1).

Table 1. Process of qualitative content analysis adapted to the present study.

CONTENT ANALYSIS PROCESS Andreú (2002) and Krippendorff (2004)	ACTIONS PERFORMED	DEVELOPMENT MODEL DEDUCTIVE-INDUCTIVE CATEGORIES Mayring (2000)
Determination of the analysis object	Specify the research objective, study problems.	Set the study objective, research questions
Units Creation	Set the analysis units	Deductively determine the main analysis categories (initial dimensions)
Sampling	Exploratory text analysis	Inductively establish the analysis categories and subcategories
Register/Coding	Analysis of all units with the established code system	First coding, applying the categories and subcategories of initial analyses
Reduction	Structuring of the code system and subcodes temporarily	Second coding Selection of the most representative interview fragments of each category
Inference	Consolidation of codes, dimensions, categories and subcategories	Exhibition of the results found, structured in dimensions, categories and subcategories
Narration	Results Discussion	Results Discussion

Results

The analysis of the interviews with athletes with visual functional diversity (B1 and B2) and guides led to the structuring of the results into the dimension "barrier for the practice of trail running", from which the following categories emerged: (i) difficulties in the registration process, (ii) difficulties related to the guide, (iii) lack of training and specific personnel in the organization, (iv) lack of information about the routes and (v) need for adapting the rules.

a) Interview results of athletes with visual functional diversity

The answers given by athletes with visual functional diversity who participated in this study are presented below.

Difficulties in the registration process

The information provided by the organizers at the time of registration is in digital format and later on, on paper, thus people with severe visual functional diversity or blindness cannot access the information unless someone prior to the race interpret the information of the web or in the documents provided.

"The information they give you is not very accessible, because the information comes to you, but to shred the information you have to take someone who can see and understand that information and interpret it... The big problem is the accessibility to the information; a map or a running race profile are very useful images that the screen reader cannot interpret" (M8-B1-M).

"Most of the information are images with not enough contrast to see them well" (M11-B2-V).

"The format is often photos and pdf, but usually our computers only read Word, unless you have an iPhone, smartphones do not read pdf" (H14-B1-CA).

"I do not see maps, obviously, but I ask colleagues or ask my partner to tell me what the route and the unevenness look like..." (M1-B1- CA).

Another problem encountered during the registration process is the lack of control for people with visual functional diversity. Participants in most cases can not indicate if they have any kind of functional diversity or any special need that may influence the development of the race, which hinders the possibility of planning the needs of the participants.

"At the time of registration, no, because they do not ask you if you are disabled or not, and registration is usually done online, so I did not register as a blind person, I signed up as an athlete" (M1-B1- CA).

Difficulties related to the guide.

Registration is one of the main problems given the economic cost, which is a barrier because of the need of guidance and the lack of awareness about this fact. The participants that highlight this aspect consider it a limitation for the participation in trail running races.

(...) my guide is a 20-year-old student, and the registrations cannot be paid by him when they are very expensive, so some are paid by me, but I cannot always pay for them" (H14-B1-CA).

"Yes I could tell you that in some running races you could put a free registration, here in the TRANSGRANCANARIA for people with functional diversity there is a 50% discount and for the guide as well, but I cannot run without the guide, the guide is my eyes. On top of charging 50% they have no right to anything, only to the race number and to the refreshments, not to the runner bag, shirt or anything" (H4-B2-LP).

Lack of training and specific personnel in the organization.

A lack of training of the people participating in the organization has been detected (mountain technicians, club managers, volunteers), which means that despite the good intentions, the needs of people with visual functional diversity are not met adequately; the main reason given is the lack of knowledge.

"The attention is adequate, what I think is not appropriate is the training; let me explain: people always try to put good will and do things well. But doing things well also takes preparation, time and money, and when it does not exist, things do not go well. People in general want to do things well, nobody does things badly on purpose, but they do them badly because of their ignorance" (H15-B1-LP).

During the different moments of development of the running race, support personnel are needed by the organization, both before and after (in the sports facilities or reception, toilet, warming up zone, etc.), as well as during the race itself (especially at the refreshment zone, checkpoints and medical attention points).

"Although there is goodwill in most of the places we go to, there is still need for people who can help you in difficult times" (M11-B2-V).

"In the facilities there is not help provided, because the only thing that they provide are usually changing rooms and showers, and support people are necessary" (M1-B1- CA).

"(...) personally, I found myself in races that, in the most difficult points of the race, there was nobody or there was nothing left in the refreshments, you get an idea during the race and when you arrive, there is nothing or no one left" (M8-B1-M).

Lack of information about the route.

The assessment of the itinerary difficulty to be carried out is done by applying the excursion information method (EIM), which is a scale that is not adapted to the information needs of the group with visual functional diversity. The EIM takes into account the distance to be travelled, the unevenness to overcome, the type of terrain, etc., but in the type of terrain it only distinguishes between asphalt and rural land. For people

with visual functional diversity, the detail of the terrain is fundamental (if there are stones, branches, roots, mud, puddles and a long list of small details that go unnoticed for runners with vision when they run down the mountain), and they pose one obstacle after another that they must assess before choosing a race, thus the information provided is often insufficient, which increases the risk of having an accident.

"I think they should mark the points where we would have the greatest difficulty, and the most technical points of the race when they give us the information; the graduation is sometimes fine because they say medium-high or high, but you never know in which segments of the race you'll encounter the difficulties"(H31-B2-V).

"Not having much problem with the routes, my problem is with the vegetation because it bothers me a lot, the tall as much as the short, everything that projects a shadow limits me a lot ... the details are important; just knowing the kilometers is not enough" (M11-B2-V).

"I do not think it's enough because of what I'm telling you: sometimes they do not give the data that needs to be given" (H9-B1-T).

"I do not know what kind of information reaches athletes without disabilities, but what we receive is not enough" (H9-B1-T).

"In my case I do not look at them, mainly because we have tried to train with them and it was worse for us. As long as the guide goes well and understands the markings, it's good enough for me"(H4-B2-LP).

"... different levels of difficulty should be proposed in the races, in most of the races there is the absolute category and then there is the junior category, and really not everyone can run the absolute, even if they do not have any type of disability" (H31-B2-V).

Need for adapting the rules

The rules that apply in trail running races in which athletes with VFD participate, do not conform to the characteristics of this population. The perception of the runners is that it is necessary to make small adjustments in the general rules of the SFSB and SAMCS, which can contribute to the effective inclusion of athletes with VFD.

"The time cuts, the refreshment zones where there are no volunteers because they have left already, or the use of sticks, which some organizations forbid; if someone uses a stick it's because that person is blind, if there would be no need, that person would not use it"(M8-B1-M).

"To extend the cut-off times, because sometimes you barely make it and you no longer run comfortably; perhaps a margin of 20 or 30 minutes more, because the means they calculate are those of the super runners that have marked the route" (H15-B1-LP).

b) Results of the interviews with the guides

Next, we present the answers given by the guides of the athletes with visual functional diversity that participated in the present study.

Difficulties in the registration process

There is a lack of adequacy in the registration process, since visual functional diversity is not considered as a datum to be collected from the participants' questionnaires. This lack of information leads to situations of uncertainty and fear for both the organizers and the participants.

"Improve it in the sense that the one who organizes a trail running race knows that blind people could participate, that the other participants should know that the bars need three people and that if they do not ask other to give way or make it, it is difficult to run in narrow paths. There are people who do not speak, who only complain and get angry because they do not know how we run "(H21-G-M).

"The organization must enable all the running race staff to know that there are people with disabilities who will participate, that they stop using sticks because there are races in which they do not allow it" (H22-G-M).

Difficulties related to the guide.

A perceived need is to have guides with specific training in driving people with visual functional diversity in trail running races. Mountain guiding is a specific activity within the guides for people with visual functional diversity. In this activity, previous training is necessary to guarantee the safety of both, and it must not be forgotten that the activity takes place in an uncertain environment in which safety is a fundamental factor.

"I believe that more and more blind athletes participate in popular races, half marathons, races organized by the city councils. But there is an important underlying problem: there are not enough guides available" (H22-G-M).

"There is a lack of more volunteers and more guides, I do not know who could solve it, ONCE (Spanish Association of Blind People), the communities or the town halls, but there should be a more numerous group of guides at the national level" (H21-G-M).

"(...) The training of guides should be encouraged." (H5-G-LP).

"Basically, there are enough people who can perform the tasks of guidance, what is needed is people who are trained and willing to give their time" (H21-G-M).

"In most running races there is no real effort to facilitate the inclusion of people with disabilities; guides are not provided (...)" (H26-G-S).

Lack of information about the route marks.

As has happened with athletes with visual functional diversity, the guides emphasize that the information about the routes in trail running races is scarce, and it has to be request from the organization.

"The lack of information can be a barrier. Many times those who organize the event have not made the running circuit or even walked it themselves, and do not know what information they are giving. For us it is important to know where we run, because it is the runner's safety" (H33-G-V).

"It is important to know if it is a technical running race, which you are not always told, and then you ask for the type of path and the type of soil" (H20-G-LR).

"The web page, in principle, has hardly any information about mountain activities, and when you get to the races, all you know is the profile and the map of the race, but nothing more. I think there is a lot to add and to improve, especially before the races" (M3-G-M).

"The type of terrain should be indicated: loose stones, large stones, if there are sections with mud because it has rained or because water passes nearby, if there are many roots ... At least indicate the sections with the type of terrain and obstacles that you can find, and assess if we can do it or not, or evaluate at least how long it will take to complete it, because in the running races there is limited time" (M4-GS).

Lack of trained specific personnel in the organization.

The perception of the guides, again, indicates a lack of training on the attention to people with visual functional diversity; a good predisposition and treatment is perceived, but the lack of actions regarding the needs of this group hinders a possible inclusive participation.

"In races, they will always welcome you, so there is a lot of willingness, but people do not know what they are going to find" (M4-G-S).

"In races, I think it is difficult for a blind person to integrate independently, as we always need a guide to participate, and also more time and attention" (M7-G-V).

"In trail running there are many races at the local level and little knowledge about our population, but when you mention it, they are happy to modify things and work to include us. People are very willing but they have no idea; they may not have the conditions to include visually impaired people and they do not know that. So, I think there is a lack of knowledge" (M4-G-S).

"You participate in the race and they realize the situation and they are kind, they look after you well, but from the beginning they were not ready to include us, they improvise" (H22-G-M).

"I think that what's missing is knowledge and information (...) in races they do not know how to act or if they are going to be capable, and that is a lack of knowledge" (M4-G-S).

The guides also highlight the lack of specific actions of the organizing staff during a trail running race, especially in the refreshment zones, perceiving a lack of specific inclusion actions for us.

"(...) if you arrive late to the refreshment zones you cannot find almost anything and there is not even water left" (M12-G-M).

"In most races there is no real effort to facilitate the inclusion of people with disabilities" (H26-G-S).

Need for adapting the rules

The different rules that govern the organization of trail running races establish categories, times, materials, and human and material resources that are not adapted to the reality and needs of people with visual functional diversity during the race. The guides' responses indicate a need to make changes in the rules to encourage the inclusive participation of people with visual functional diversity.

"In the rules you have to evolve to improve; changes need to be done in all sports" (H11-G-S).

"In the end we are the ones who have to adapt to the rules of the races to participate" (H22-G-M).

"It would only be a matter of being integrated in races more effectively, the adaptations do not require major modifications" (H26-G-S).

"Well, as I said maybe include a category for the disabled as in other sports. In athletics, or in triathlons, often, they contemplate the disability and the times are extended, and they are taken into account for the organization and the prizes" (M4-G-S).

"The closing time has to be extended, I take more time than a person who sees; the refreshment zone needs to have enough food and drink for everyone" (H22-G-M).

"Normally, if there is a cut-off time, it is impossible for you to arrive with a blind runner on time" (M4-G-S).

"Cut-off times should be removed, because depending on how technical you are, you pass them or not..." (H33-G-V).

Discussion

The perceptions of the athletes with VFD and the guides, presented in the results section, are similar in terms of barriers detected, related to trail running race organizers, which are: difficulties in the registration process, difficulties related to the guide, lack of training and specific personnel in the organization, lack of information about the routes and tracks, and the need to adapt the rules to the population with visual impairment.

Regarding the registration process, it is necessary to design a communication process accessible from traditional media and new technologies, since it is the first step to make an adequate incorporation to the events, coinciding with various studies (Alcaraz et al., 2017; Arribas, 2012; Ocete et al., 2016).

As in other studies, there is a barrier related to the guide's consideration as an indispensable support person, and therefore, to the gratuity of the race number or a considerable discount in the registration for them, given that the guide does not compete to win, but rather runs to give another person the chance to compete (Bueno, 2012; Carrascosa, 2013). Trained guides should also be promoted and facilitated by the organizers.

Specific training is required for all members who are part of the organization of a trail running race, as also indicated by the works of Mank (2000), Navarrete (2009) and Segura et al. (2013).

It is necessary to make a better description of the track with information complementary to the one obtained from the EIM method, which reports the characteristics of the type of terrain, the obstacles encountered, the location of the refreshment zones, the distances travelled, etc., that allows an inclusive participation and an improvement in the safety of the participants, as Navarrete (2009) also indicates.

Finally, among the barriers detected, it is worth mentioning the need to modify the rules (Alcaraz et al., 2017, Arribas 2012, Rubio et al., 2015, Tejero, 2016). The incorporation of a specific category, the authorization of the use of essential adapted materials and of supporting personnel such as the guide, or the adaptation of the cut-off time, are some of the essential elements to modify.

Based on the comparison between the main actions to design inclusive sports events indicated by Pérez-Tejero & Ocete (2015) and the results obtained in this study, the most important actions to be taken into account by the organizers are as follows: adaptations in the registration process, having detailed information about the activity, selecting qualified and trained technical personnel on people with VFD, facilitating the participation of the guide, knowing in detail the environment of the race, providing accessible information about the tracks, facilitating the necessary equipment for all athletes with VFD (for example, directional bars), adapting the rules of the race, collaborating with other institutions or clubs related to people with VFD and evaluating the perception of the athletes with VFD after the event.

Conclusions

Inclusive participation from people with visual functional diversity in trail running races will be possible when specific actions are incorporated by the organizers of these competitions, which enable inclusive management models.

From the analysis of the perceptions of athletes with VFD and guides that participated in the present study, the following barriers related to the organization of trail running races were detected: difficulties in the registration process, difficulties related to the guide, lack of training and specific personnel in the organization, lack of information about the tracks and the need to adapt the rules.

Therefore, it is recommended to incorporate a series of facilitating measures for the design of inclusive trail running races: adapt the registration process, facilitate the participation of the guide, develop specific training prior to the organizers, adapt the description of the routes and modify the rules.

The main limitations of the present study were the limited number of athletes with VFD participating in the National Trail Running Cup and the use of interviews as the only means of collecting information (which can be complemented with validated questionnaires).

In order to incorporate these inclusive actions in trail running races, it is necessary to know the perception of trail running race organizers about them, with the aim of establishing the difficulties they may cause, articulating measures for their correct implementation and evaluating their effective incorporation.

Conflicts of interest – None.

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