



Commentary

Comentário

SOBRASA Statements: Individual Athlete's Checklist to Reduce Adverse Events in Open Water

Recomendações SOBRASA: "Checklist" individual do atleta para reduzir eventos adversos em águas abertas

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Received: April 27, 2020. Accepted: April 27, 2020.

Published online: May 21, 2020.

DOI: 10.37310/ref.v88i4.1336

Abstract

Introduction: In 1988, 25-year-old Brazilian Renata Agondi died during swimming across the English Channel. In 2010, the American Fran Crippen, a famous medalist swimmer in open waters, died during a race. Events like these provoked changes in concerns related to safety in open waters events, yet with insufficient results. In recent years, there was an increase in the number of incidents and deaths in training and competitions.

Objective: To present the pre-participation assessment instrument in a sporting event in open waters of the Brazilian Rescue Society (Sociedade Brasileira de Salvamento: SOBRASA). It is a self-questionnaire with simple answers, in the "checklist" format, which allows the athlete to evaluate the security of your participation in the event, before you do it.

Conclusion: In order to develop the questionnaire, a focus group was formed, consisting of 16 specialists (health and sports professionals, military firefighters, and athletes from open water events) to list and discuss the risk variables involved in conducting a test. swimming in open water, as well as identifying ways to reduce them. Even with all the safety precautions that are taken in this type of test, there is no 100% security. In this context, it is up to both the organizer and the athlete / competitor to pay attention to the risks involved in the activity to reduce them aiming to prevent undesirable incidents.

Keywords: drowning, mortality, water sports, swimming.

Keypoints

- Every day 16 Brazilians drown (5,700 / year [2.7 / 100,000hab]).
- With the increase in the holding of sporting events in open waters, the number of incidents and deaths in these competitions has been increasing.
- In order to identify and minimize the risks of the activity, SOBRASA developed a participation checklist for a pre-participation assessment to be carried out by the athlete / participant.

Resumo

Introdução: Em 1988, a brasileira Renata Agondi, 25 anos, morreu durante travessia no Canal da Mancha. Em 2010, o americano Fran Crippen, um famoso nadador medalhista em águas abertas, faleceu durante uma prova. Eventos como esses provocaram mudanças na segurança de provas em águas abertas, mas, ainda com resultados insuficientes. Nos últimos anos, observou-se um aumento no número de incidentes e mortes em treinos e competições.

Objetivo: Apresentar o instrumento de avaliação pré-participação em evento esportivo em águas abertas da Sociedade Brasileira de Salvamento (SOBRASA) Trata-se de um auto questionário com respostas simples, no

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formato "checklist" (lista de checagem), que permite ao atleta avaliar a segurança de sua participação no evento, antes de realizá-lo.

Conclusão: Para desenvolver o questionário, foi formado um grupo focal, constituído por 16 especialistas (profissionais de saúde e do esporte, bombeiros militares e atletas de provas de águas abertas) para se listar e discutir as variáveis de risco envolvidas na realização de uma prova de natação em água abertas, bem como identificar formas para reduzi-los. Mesmo com todas as precauções de segurança que sejam tomadas neste tipo de prova, não há 100% de segurança. Nesse contexto, cabe tanto ao organizador quanto ao atleta/competidor atentar para os riscos envolvidos na atividade de forma a reduzi-los a fim de prevenir incidentes indesejáveis.

Palavras-chave: afogamento, mortalidade, esportes aquáticos, natação.

Pontos-Chave Destaque

- *Diariamente 16 brasileiros morrem afogados (5.700/ano[2.7/100.000hab]).*
 - *Com o aumento na realização de eventos esportivos em águas abertas, a quantidade de incidentes e mortes nessas competições vem aumentando.*
 - *Na busca de identificar e minimizar os riscos da atividade, a SOBRASA desenvolveu um "checklist" de participação para uma avaliação pré-participação a ser realizada pelo atleta / participante.*

SOBRASA Statements: Individual Athlete's Checklist to Reduce Adverse Events in Open Water

In 1988, Brazilian athlete Renata Agondi, 25 years old, died in the English Channel after 10 hours and 45 minutes during an open sea crossing, almost on arrival. In 2010, American Fran Crippen, a famous open water medallist swimmer, died during a race by a cardiac arrhythmia provoked by warm water (32°C). Both were professional athletes and died by drowning, which could have been avoided if there were stricter safety rules. After these events, major security changes took place in the world of open water events. However, with the increase in the number of events and participating athletes, the incidence of those a have increased.

The statistics data show that 16 Brazilians die by drowning every day. (5.700/per annum[2.7/100.000hab])(1). In Brazil, drowning is the second leading cause of death in the age group of 1-4 years; the third of 5-14 years; and the fourth aged 15-19 years. Unfortunately, Brazil is one of the countries with the

highest number of deaths worldwide, and our young people are among the biggest victims. The risk of death by drowning, for those inside or near water is 200 times higher than the risk of a traffic accident among those using a motor vehicle, demonstrating the high risk of death due to exposure to the water environment(2).

All sports are subject to adverse events during their practice. However, water sports have one of the highest death risks(3-5). The aquatic environment can instantly become a hostile environment for survival if a loss of consciousness due to trauma, even a small one in the head region or a sudden illness. There are many more risks in open water events than we are usually aware of. This lack of knowledge can determine drowning in 1 minute and the death of this sportsman in 5 minutes, if the process be not interrupted immediately(2).

The number of sport events in open waters, both professional and amateur,

has increased over the years, and so the number of incidents and deaths in those competitions.

The Brazilian Rescue Society (Sociedade Brasileira de Salvamento Aquático: SOBRASA) was founded in 1995, by rescue specialists and its mission is to unite Brazil to reduced drowning morbidity and mortality by prevention and education programs. Its three main pillars of action are: 1) To gather professionals in the area of aquatic safety in the country with the purpose of exchanging information and discussing the best practices of preparation, prevention, rescue and mitigation of drowning; 2) To create and promote drowning prevention campaigns and programs for all; and 3) To encourage and support study and research in the area of aquatic rescue aiming to develop scientific knowledge that contributes to reducing the incidence of drowning. Since its foundation in 1995, more than 30 different prevention programs have been created and promoted, covering all aquatic scenarios, activities and ages affected by drowning.

Each year, several Brazilians die practising some water sport or during open water events, which occurs predominantly in young men. Even under adequate lifeguard supervision, the risk is high and any form to reduce it is to be recommended. The majority of cases of drowning can be prevented by adopting measures for risk prevention and reduction, the most important is a well-performed supervision in aquatic environments. Drowning deaths during water sports events are less frequent than in other situations; however, there is great repercussion in the media because, generally, they are people who knew how to swim, sometimes high-performance athletes, showing an unexpected vulnerability and, supposedly, impossible to occur.

The phrase “KNOWING HOW TO SWIM IS NOT A SHIELD AGAINST

DROWNING” (6), portrays the reality that, although learning to swim reduces the immediate possibility of drowning, as it allows fluctuation and the eventual exit from risky situations in the water, this learning process requires much more time in water, increasing the inherent exposure risk. It is fundamental to understand that knowing how to swim relates interely to the risk conditions of the place. For instance, a child who knows how to swim across a 25 m pool can drown easily on a beach with only 0.5 m of waves. Therefore, not only knowing how to swim is important, but also understanding the inherent risks of the aquatic environment and to be aware of the personal limits.

It is important that athletes, who intend to enrol in an open water sports competition, understand what the important points are to reduce the possibility of an adverse event. Some of these events can be minimized, others can be relocated or avoided. It is up to both the organizer and the athlete / competitor to pay attention to these risks in order to reduce them(7).

The aim of this work was to present a self-questionnaire for pre-participation for open water sports events prepared by SOBRASA using simple and accessible language, that allows the professional or amateur open water sports athlete to assess their preparation level in terms of technical and physical fitness, medical and psycho-emotional status, and safety aspects regarding the competition’s organization, before taking part or before registering in an open water sporting event.

Methods

Facing with the occurrence of deaths in open sea events, in 2019, a discussion started within the WhatsApp group “Sobrasa Health”. Composed of 256 people, this group consists of specialists in public safety and health areas (doctors, nurses, physical education

professionals, and military firefighters). From the debates arose the need for developing an evaluation instrument for pre-participation in sporting events in open waters. Thus, the theme was proposed as a challenge and a specific group was formed to develop the "*Checklist of Events in open waters*", with the participation of 16 experts: guests from the original group, interested in contributing to the theme and new members such as: technicians, organizers, professional athletes and amateurs in the area of water sports. During the group discussions, all the items considered relevant to risk were listed and the respective possible ways to reduce them were risen. All items were then classified into major areas of interest as a checklist, that could be answered by the athlete who intend to take part in an open water event. The authors tried to simplify the questionnaire as much as possible in order to alert and educate the athlete, who must respond questions about his / her own safety in an open water event, whether it be a competition, a training session or leisure swimming. The specific questions were intended to guide the participating athlete to a more conscious decision-making before enrolling in a sports competition or registering in an open water competition. The instrument was proposed using an informal and accessible language through closed questions, which allow only dichotomous answers yes (Y) or no (N).

The SOBRASA's Checklist

By consensus, within the group of experts (n=16), the various risks identified were divided into five areas: technical / physical fitness for the aquatic event participation; safety characteristics of the event's environment; individual health; psycho-emotional health; and the security provided by the event organization. Each area was composed

of several items to be evaluated by the athlete's perception in terms of both his / her own participation conditions and the conditions offered by the event organizers. The questions are presented below and the all instrument is presented in Figure 1.

Is your aquatic fitness adequate to the race?

To evaluate the item "*Is your aquatic fitness adequate to the race?*", five questions were elaborated to highlight the personal care related to the proposed aquatic event. There was a concern to identify the appropriate technical / physical fitness level to perform an open water competition; the nutritional status 24 hours pre competition / race; if there was the adequate hydration level and adequate intake of nutrients(8); and if the adaptation to the neoprene suit was previously taken, referring to the experience with the equipment and if there is a need to use it according to the water temperature, in order to avoid cases of hyperthermia or hypothermia.

Is the race location and the environment safe?

In the item "*Is the race location and the environment safe?*", three questions were asked to identify the meteorological conditions (sea / waves / currents / winds); environmental conditions (adequate temperature / water temperature / presence of marine animals and harmful substances to health); and if the event was well flagged and understood by the athlete.

Is your medical condition adequate for the race?

To evaluate the item "*Is your medical condition adequate for the race?*", five questions were elaborated, with the purpose of identifying the medical condition and health risk level of an athlete, amateur or professional, to take parte in a sporting event at the age of risk for cardiovascular events (35 years); the possibility of a sudden period of

unconsciousness; drug use (including alcohol); and self-reported or medical reported health assessment(8).

Is your emotional state adequate for the race?

In the item “*Is your emotional state adequate for the race?*”, three questions were elaborated to identify their psycho-emotional state to take part in a open water race / competition including unfavorable environmental conditions. It is questioned whether the athlete has preveously participated in a race with the same characteristics as this one; if he / she is sure / calm to carry out this specific race; and if the main doubts about the race were all cleared up.

Is the security at the event adequate?

To evaluate the item “Is the safety at the

event adequate?”, six questions were prepared to identify the importance of ensure that one is registering to participate in a safe and well-organized event. Items such as: whether the organization clarified critical sites / moments of the race course that present greater risk to drowning; whether the number of participants in your race / start site seems adequate; whether there are safety measures in place to rescue in and out of water; and whether the athlete is aware of how and when to ask for help in case of need.

The “SOBRASA OPEN WATER – Individual Checklist for incidents and deaths reduction ” is shown in Table 1 for scientific academic purposes.

SOBRASA OPEN WATER RACE
Individual checklist for incident and death reduction

Just 5 actions to reduce adverse events

1. Is your aquatic fitness adequate for the race?
 Adequate training with a minimum frequency of 3x per week and appropriate to the race? YES NO
 Adequate recent nutrition and hydration? YES NO
 Adequate proof equipment (swimming glasses are essential)? YES NO
 Wearing a suit/ neoprene is suitable for swimming and water temperature? YES NO
 Have you trained with this equipment before? YES NO

2. Is the race location and the environment safe?
 Sea / wave / current / wind conditions? YES NO
 Adequate ambient and water temperature? YES NO
 The race is well signposted (floaters and flags)? YES NO
 Water with absence of marine animals and / or substances harmful to the health? YES NO

3. Is your medical condition adequate for the race?
 I am up to 35 years old and I had my check-up less than 1 year ago and everything is normal? YES NO
 I am > 35 and had my check-up for less than 1 year (including ergometric test) and everything is normal? YES NO
 I have no illness that suddenly makes me incapable of swimming, or loss of consciousness? YES NO
 I confirm that I did not use alcohol or drugs 48h before the race? YES NO
 I filled out the "Responsibility Term" or health certificate? YES NO

4. Is your emotional state adequate to the race?
 I have already performed a race with the same characteristics? YES NO
 I am safe / calm to perform the race? YES NO
 I clarified the main doubts I had about the race? YES NO

5. Is the security at the event adequate ?
 The organization clarified the sites and moments most critical to drowning? YES NO
 The number of participants in your race / start area seems adequate? YES NO
 There are safety measures for my rescue in and out of the water? YES NO
 I am aware that I will have help in any part of the circuit? YES NO
 I am aware of how I should ask for help? YES NO
 I am aware that if I feel unsafe / in danger, I should ask for help immediately? YES NO

"Individual Checklist for participation in open water sports events" in visual format to which the athlete should try to resolve any "NO" that he/she answered, in order to increase his/her personal safety in that specific event.

“SOBRASA OPEN WATER – Individual Checklist for incidents and deaths reduction” was elaborated by a drowning and open water race experts
 Sociedade Brasileira de Salvamento Aquático

Figure 1 – SOBRASA Individual Checklist for participation in sporting events in open water

Table 1 – SOBRASA Open Water – Individual checklist

SOBRASA OPEN WATER – Individual Checklist for incidents and deaths reduction	
Is your aquatic fitness adequate for the race?	Y N
Adequate training with a minimum frequency of 3 x per week and appropriate to the race	
Adequate recent nutrition and hydration	
Adequate proof equipment (swimming glasses are essential)	
Wearing a suit / neoprene is suitable for swimming and water temperature	
Have you trained with this equipment before?	
Is the race location and the environment safe?	Y N
Sea / wave / current / wind conditions	
Adequate ambient and water temperature	
The race is well signposted (floaters and flags)	
Water with absence of marine animals and / or substances harmful to the health	
Is your medical condition adequate for the race?	Y N
I am up to 35 years old and I had my check-up less than 1 year ago and everything is normal	
I am > 35 years old and had my check-up for less than 1 year (including ergometric test) and everything is normal	
I have no illness that suddenly makes me incapable of swimming, or loss of consciousness	
I confirm that I did not use alcohol or drugs 48h before the race	
I filled out the “Responsibility Term” or health certificate	
Is your emotional state adequate to the race?	Y N
I have already performed a race with the same characteristics	
I am safe / calm to perform the race	
I clarified the main doubts I had about the race	
Is the security at the event adequate ?	Y N
The organization clarified the sites and moments most critical to drowning	
The number of participants in your race / start area seems adequate	
There are safety measures for my rescue in and out of the water	
I am aware that I will have help in any part of the circuit	
I am aware of how I should ask for help	
I am aware that if I feel unsafe / in danger, I should ask for help immediately	
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<i>Szpilman, D. & Mello, D. – Rev Ed Fis / J Phys Education. 2020; 88(4): 1041-1047</i>	

Conclusion

There is no 100% safe environment, but there are ways to increase safety. Among the more than 20 variables listed and evaluated, none were fixed and constant; rather, they vary according to the day in relation to environmental conditions as well as the personal and safety conditions – the last offered by the organization / preparation of the event / race. Therefore, it is recommended that the athlete pays close attention when answering the questions proposed by the *Checklist* before participating in any

open water event. Moreover, it is of utmost importance that the athlete avoid concluding that having previously swam that route before means that the risk related to conditions on the day in question will be the same as on that occasion, thus the care to evaluate the event’ safety must be proceeded as it was the first time there.

The group prepared the “*Individual Checklist for participation in sporting events in open water*” in visual format (Figure 1) to which the athlete should try to resolve any “NO” that he answered, in

order to increase his personal safety in that specific event.

Acknowledgments

Thanks to the members of the SOBRASA Group for their contribution in this document: Claudia Coutinho, Claudenir Celestino, Fabrizio Di Masi, Fabrício Vieira, Franz Burini, Glauco Rangel, Lucia Eneida, Magna Costa, Maurício Soares da Silva and Roberto Trindade.

Our recognition and gratitude to Mrs. Carole Tipton and Professor Mike Tipton for the English revision.

Conflict of Interest Statement

There is no conflict of interest regarding this study.

Funding statement

No fundings.

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