Drowning prevention– different scenarios needs customization water safety messages and actions

Dr David Szpilman[1,2], Lieutenant Colonel Paulo Barroso[1], Lieutenant Colonel Edemilson Barros[1], Colonel Onir Mocellin[1], Sgt Juliano Figueiredo[1], Lieutenant Colonel Carlos Smicelato[1], Prof Roberto Trindade[1], Prof Marcelo Vasconcellos[1], Major Antonio Schinda[1], Colonel Jefferson Villela[1], Lieutenant Colonel Luiz Junior[1], Lieutenant Colonel Marcio Morato[1], Prof Waltecir Lopes[1]
[1]SOBRASA, Rio De Janeiro, Brazil, [2]Hospital Municipal Miguel Couto, Rio de Janeiro, Brazil

Prevention 2, Ballroom 3, November 4, 2015, 3:30 PM - 5:30 PM

Introduction
Drowning is a major public health problem in Brazil where 18 people die daily, four of them children under 14. Brazil has a very high exposure to aquatic areas used year round, and the one of highest rates of death by drowning in the world. In 2012, drowning was responsible for 6.369 deaths and was the second leading cause of death for those aged 1 to 9. Freshwater venues were responsible for 92% of all deaths but locations vary widely. Preventive education is the most effective action that can be taken to reduce these figures but messages need to be tailored to each venue and group at risk. The aim of this study is to identify different scenarios where drownings occur and their specific water safety messages and actions.

Methods
Drowning experts from the SOBRASA's Board of Directors were invited to participate electronically and select drowning scenarios, water safety messages and actions to be taken by the lifeguard service. Brazilian national summary information concerning victim profile for each scenario was provided when available. A place for expert rationale input to each recommendation was available. The Delphi method, a structured and interactive communication technique was used in 3 rounds:

1) Propose all scenario's possibilities, water safety messages and actions. This was split in two sections: one for the public and the other with actions to be taken by the lifeguard service. Each participant classified an action pattern as: pro-active, reactive or mixed;
2) Identify overlaps and propose new messages;
3) Score all messages from 1 to 5 for each particular scenario and rank them in 3 levels of importance. The top priority level rank was set to 4 and above and was used to summarize the most important water safety message to release to the public. The overlapping of top messages in more than 4 scenarios was selected to be general water safety message and actions to be taken by lifeguard service.

Results
12 experts voluntarily answered the 3 rounds of the Delphi process along a 7 months period. Twelve scenarios were identified: general, ocean beaches, river, open water (lakes/ponds/dam), pools, flooding, in and around-house, fishing, boat and water craft, waterfalls, surfing and board craft sports and water transportation. Experts' selection of water safety top priority messages (>4 points) varied in number from 5 to 14. Messages overlapped scenarios in 27%. Each scenario and their top messages are demonstrated in table 1. The top priority number of preventive actions to be taken by the lifeguard services range from 3 (in and around house) to 11 (rivers), overlapping in over 70% and were directly proportionally to governmental legal responsibility and is shown on table 2.

Conclusion
Preventive education on drowning is the most effective action that can be taken to reduce the drowning burden but resources are limited and messages are available in many different formats. To be effective, water safety messages need to be tailored. This study was able to identify 12 different aquatic scenarios and their correspondent top priority water safety messages based on expertise. Furthermore of great relevance was the identification of which messages are pro-active, reactive or have a mixed component on their content allowing an order of priority on the play. Also from the perspective of the lifeguard service this study highlight their major responsibility of taking actions on prevention education and the risk management at each scenario. The result is a powerful content tool that allows lifeguard services to launch different prevention campaigns tailored for each scenario. Still an evaluation of the power of each message needs to be scientifically tested to prove relevance.