

Rescue crafts operators – reinforcing the use of personal protective equipment

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Each year, the lifeguard services, aware of the efficiency and speeds of service performed with rescue crafts (IRBs and jet-skis), have acquired more of these equipment. Due to its increasing popularity in Brazil, rescue crafts are becoming more affordable, even for services with less financial resources. As a result more equipment is available, resulting in a growing need for crew training, including providing them with appropriate protective equipment. Not surprisingly, the increased use of these crafts, has led to a rise in the number of registered accidents involving lifeguarding crews. The number is not significant, but it is estimated to increase as more services start to use these crafts.

The objective of this work is to identify the types of injuries, fatal or not, caused by trauma to the jet-ski's crew, and the potential for reducing incidents through the use of appropriate personal protective equipment (PPE).

Method

We conducted a statistical analysis of all accidents involving jet-sky's crews in Brazil between 2013 to 2014, using the registry database of the Port Authority of the Brazilian Navy. In addition to the fatalities, we've looked for the most injured body parts during accidents, fatal or not. For comparison and to evaluate the importance of using PPE, such as helmet, long wetsuit, gloves, boots and life-vest, the types of injuries were studied for accidents occurring in São Paulo involving jet-ski's lifeguarding crews while using PPE.

Results

In 2014, Brazil had 83.882 registered jet-skis, a number 4 times higher than 20 years ago. The increased use entails an increased number of accidents. Between 2013 and 2014, there were 35 deaths in Brazil resulting from jet-sky's collisions. Additionally, 54 victims with severe injuries required medical attention. In accidents, fatal or not, it was 40% of notified injuries involved the lower limbs (legs and feet), 30% involved the head or face, 30% involved the trunk and 20% involved upper extremities (hands and arms). In general, there is more than one body part involved. Most lesions in the upper and lower limbs were dislocations and abrasions.

There was a high positive correlation between the types of injured body parts of the jet-skis operators (recreational and sport) and the injured body-parts of lifeguards from São Paulo Fire Department who were using PPE when the accident occurred (N=7). A relevant distinction between the two groups of operators was the near absence of head injuries of the lifeguards, because they were wearing helmets. In accidents involving the lifeguards, the main body parts injured were lower limbs (N=4, 58%), the upper limbs (N=2, 28%), and 14% (N=1) were inflicted in the face, implicating a part not protected by the helmet.

Even though accidents with little to no severe implications to lifeguards are underreported, existent data show that speeding and operating inexperience are the main reasons for accidents to occur with lifeguarding crews.

Conclusion

Results showed that body parts protected by PPE used by lifeguards were not injured. This illustrates the efficiency of PPE in protecting lifeguards while operating rescue crafts, and therefore can and should be widely used by all rescue crafts operators.

This study allowed the São Paulo fire Brigade to justify the mandatory and evidence-based use of PPE, not only the helmet and life-vest, but also the long wetsuit, neoprene boots and gloves. Since the implementation of this measure in 2012, there have been no accidents resulting in injuries to the lifeguarding crews.

It is evident that PPEs meet the objective of improving the safety of lifeguards when operating rescue crafts. Better protected, surely lifeguards' will have safer working conditions either when patrolling or performing a rescue.