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ORIGINAL

THE MANAGEMENT OF LIFEGUARDS IN NATURAL ACUATIC SPACES (BEACHES)

LA COORDINACIÓN DE SOCORRISTAS ACUÁTICOS PROFESIONALES EN ESPACIOS ACUÁTICOS NATURALES (PLAYAS)

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ABSTRACT

This study arises from the need to establish basic criteria and the description of recommendations to improve the level of responsiveness of lifeguards in natural

aquatic areas, specifically in the work done on the beaches, in order to increase the safety of these bathing areas.

The study was developed in Cataluña, in three beaches of different municipalities in the province of Barcelona.

We can aver after this research that most of the lifeguards who participated in the study value positively the proposed measures and criteria, through the assumption that these features help improve their work.

KEY WORDS: Lifeguards, prevention, guard, drowned, beach, lifeguards coordination.

RESUMEN

Este estudio nace con la necesidad de establecer criterios básicos y descripción de recomendaciones para mejorar el nivel de atención de los socorristas acuáticos profesionales en los espacios acuáticos naturales, concretamente en el trabajo realizado en las playas, con el objetivo de aumentar la seguridad de estas zonas de baño.

Los criterios objeto de estudio se han llevado a cabo en la Comunidad Autónoma de Cataluña, concretamente en tres playas de varios municipios de la provincia de Barcelona.

Se puede afirmar que tras esta investigación la gran parte de los socorristas acuáticos que han participado en el estudio valoraron positivamente las medidas y criterios propuestos, asumiendo que con los mismos se puede desempeñar su trabajo de una mejor forma y poder vigilar más activamente y poder llegar a evitar ahogamientos.

PALABRAS CLAVE: Socorristas, prevención, vigilancia, ahogado, playas, coordinación de socorristas.

1. INTRODUCTION

Coinciding with the beginning of summer and the summer holidays, news about people losing their lives in the water spaces begin to be revealed in Spanish media.

If the figures of last season corresponding to the year 2012 are consulted, namely, the statistical data obtained between June 1 and September 30, the figures amounted to a total of 186 deaths (Palacios, 2013). Well, in the very beginning of the season of 2013 these fateful data amount 71 deaths from 1st of June to 18th of July, while, in comparison, on the same dates of last season

there were 50 deaths, which means that this summer might even be worse (Palacios, 2013).

But we cannot think that this is an isolated incident in Spain as UNESCO and the World Health Organization (WHO), in its publication about drowning *World report on child injury prevention* (2008) claim it is a matter related to public health and this should be revealed. For this reason, and with an intent to improve the security of aquatic spaces, came up the need to continue the study conducted by Sanz (Sanz, 2011) on the coordination of lifeguards at pools with large sheets of water. This study considers that a proper coordination of resources is of vital importance, so that the attention of professionals that monitor is as appropriate and effective as possible. Expansion of the study to natural aquatic areas, reveals the data in terms of the ratio of water space and drowning (Table 1), confirming that both beach and river are the places where the largest number of drownings occur (Palacios, 2013).

Water space	N⁰ of drownings	Percentage
Beach	36	50.7
River	13	18.3
Private pool	9	12.6
Sea	2	2.8
Public pool	5	7
Reservoir	3	4.2
Canal	1	1.4
Pond	1	1.4
Cistern	1	1.4
Total	71	100

Table 1. Relationship between drowning and water space

Source: Palacios (2013).

Therefore the need is shown to replicate this study in a natural aquatic space to observe the results and to inform everyone involved, the need to optimize resources, a fact which is considered vital for the proper functioning of the rescue service and professional life guards.

2. STATE OF THE QUESTION

The scientific community agrees unanimously that the presence of lifeguards in the water spaces is essential (Harrell, 2001; Pelletier & Gilchrist, 2011), however, there are few studies and authors who claim that when monitoring the sheet of water in places where there is more than one rescuer, special importance should be given to the figure of coordinator and management that he makes of resources (López & Pérez, 2009).

It is also noteworthy that the monitoring that takes place in our country in aquatic facilities is legislated according to specific rules that each Autonomous

Community assumes. In these, minimum requirements are established for the lifeguard and rescue service, which is intended to ensure the safety of users. On many occasions they are established ambiguously and therefore are often inadequate, but at least there are some, since in natural aquatic areas there are neither state nor federal regulations. These minimum requirements are proposed by the municipalities without being supported by any evidence, but in its sole criterion that over the years is based solely on the available budget line, so year after year services are being minimized, which is reflected in the data mentioned above.

To contextualize the field of lifeguard and rescue, we can say that, in the beginning, it was conceptually understood as a resource that was offered to others to stay alive (López & Bejega, 2009), but today it is much more than that, it is a sector that has matured and grown professionally since lifeguards play a significant role, as in many cases there are risks of losing lives. A lifeguard is also one of those directly responsible for monitoring and intervention, therefore, their training and qualification must be complete and specific, their training should be appropriate for the bathing area and especially their knowledge and practices must be updated (Palacios, 2001).

At present, other different concepts as prevention are included, the concept coined by Myron Cox (coordinator rescuers Los Angeles) and in 1925: "prevent a rescue rather than perform it" (United States Lifesaving Association, 1981: VIII) respect for oneself and all sectors related to our work, responsibility for the work done and education in human values since skills and physical abilities, physical training and knowledge possessed by an individual are of little or no use if his/her human values fail him/her (Palacios, 1998).

For these reasons a detail about the resources that form part of a lifeguard service is discussed below (López, 2012). The depth and detail of resources is necessary because we must not forget that many of them can sometimes be used by lifeguards; you must never leave anything to chance and any activity, no matter how safe it may seem, must be constantly supervised and monitored. In this sense we have to say that this would not be possible to do without a coordinator of lifeguard service, a figure around which the operation of the service turns. Therefore, the objective of this study consists in elucidating the necessary resources and implementing a coordination model, whose main characteristic is to objectify and clarify responsibilities personalized on professional lifeguards working on the beaches, and to know the opinion of these professionals about this form of operation and organization of resources.

2.1. HUMAN RESOURCES IN PROFESSIONAL WATER SAVING

One of the most important aspects to consider both in aquatic facilities (Pascual, 1997) and in natural aquatic areas (Palacios, 2008), is the staff, as it is no good to have some good plans or performance protocols and quality material resources about if the staff that we are counting on is not qualified and if they don't behave professionally.

There is diversity of denominations on human resources in lifeguard services, especially if we set the differentiation of these resources in aquatic facilities and natural aquatic areas, as in the case of resources in the facilities are not only water rescuers are those belonging to this classification, but also the staff responsible for other functions (maintenance of facilities, concierge duties) that often can be, in case of evacuation, the ones who are destined to open emergency doors (Pascual, 1997). Because of this you must take into account all staff working in an aquatic facility to set protocol functions for all staff in an emergency. However, in natural aquatic areas, the most generic name is the one of lifeguards, although there is qualified staff without that designation who is a part of the team (skipper, DUE or nurse).

Whatever the space in which the work of lifeguards is developed, it is essential to establish the optimal number of people needed for the proper functioning of lifeguard and rescue equipment, and their training, so that the operation of the service to play is correct and professional because "*their behaviour and work patterns should be perfectly standardized to be effective apart from facilitating debugging of responsibilities*" (García, 1993).

While it is true that the number of people forming services varies depending on the characteristics of the bathing areas, whether we are talking about pools, rivers, water parks or beaches, considering the type of aquatic area and its configuration (dangerousness, extension, number of users), criteria should be unified and a proper organization, according to the needs of the service in a professional management should be raised. In this line and for the achievement of this study we have taken the parameters set by Pascual (1997) who outlines the criteria to be followed for effective monitoring of natural aquatic areas listed below:

- "The monitoring should cover the entire bathing area".
- "We need to locate lifeguards at a high position (although in the case of the pools, this recommendation is not always necessary)".
- "Lifeguards must have certain material resources (binoculars, radio, etc.)".

• "The number of lifeguards and location of checkpoints should be established based on: o The space to watch":

- Characteristics of the area.
- Number of potential and actual swimmers.
- Activities taking place in the area.
- Visual control over the area.
- Existing equipment.
- Type of surveillance that is performed (static or dynamic).
- Potential risks or accidents.

• "The lookout must have direct and immediate access to the swimming area and to materials that can be used to get close to the drowning person and rescue him/her (spinal board, boat, flopi, lifebuoy, table, etc.)".

• "Adequate communication with the next stages of rescue chain (medical service, ambulance or casualty evacuation system, hospital) must exist."

• "Lifeguards must have the best working conditions (materials for their safety, security and comfort needed) to conduct surveillance without prejudice to their health".

• "Supervision of all human resources and materials involved in monitoring must be performed regularly."

• "Monitoring should focus on potentially more dangerous behaviours and activities in children and elderly people with poor command of the aquatic environment and should not forget those who, while being good swimmers, commit indiscretions or overestimate themselves".

As you can see, there are many issues to control, but based on them, this study was carried out adding and controlling the distribution and optimization of lifeguards' staff.

For human resources services to operate effectively, there must be a clear hierarchy, known by everyone involved. The coordinator must be responsible in the first instance for the optimal development of the service. This is how the main role of coordinator of a rescue service in natural aquatic areas was defined:

"Coordinate both human and material resources of organized rescue service in natural aquatic areas, overseeing the work of prevention, monitoring and intervention where necessary, ensuring the safety of users above all" (López and& Pérez, 2008).

In lifeguard and rescue services, both in aquatic facilities and natural aquatic areas, with lifeguards, you can find health personnel; this personnel is responsible for first aid and emergency situations that are carried out (Pascual, 2001; López, 2007). We can't forget the material, you could list all materials that may be of assistance to us when intervening before an accident or water rescue, because there are many devices or objects that can be helpful to us in these situations, without making any distinction between them. But when we speak of material resources in professional rescue, there are those materials that have been designed and created with the purpose of preventing, reporting, monitoring and if necessary acting, since they are an essential and facilitating aid in the work of lifeguards (Palacios, 1998).

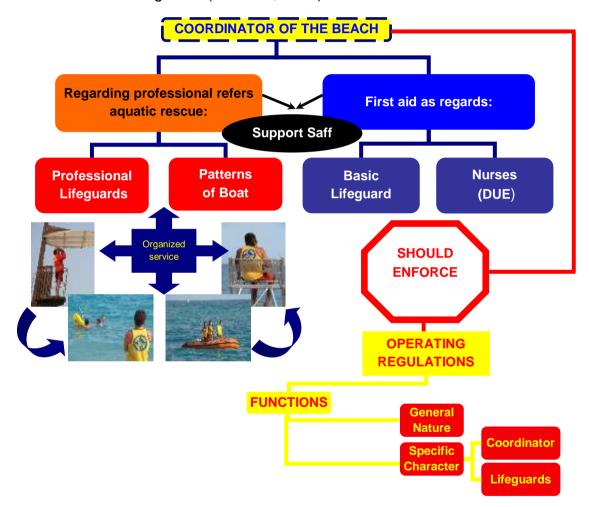


Figure 1. Structure of operating a lifeguard service in natural aquatic areas.

To serve as an example, we expose the structure (Figure 1) of running a lifeguard service in natural aquatic areas (López and& Pérez, 2008), a system on which this investigation has been conducted.

State law with respect to lifeguard and rescue services in natural aquatic areas is non-existent, for this reason as legal framework regulated by Community of Madrid has been taken, on the requirements and performance standards on

aquatic installations (Health and Counselling Social Services of the Community of Madrid, 1998), which is the community in which research that has been conducted in this study (Sanz, 2011) is based. Respecting these regulations and taking into account the organizational and coordination systems that arise in Spanish or foreign shores, such as the municipalities of Port de la Selva and Calvia (Barnea, 2001; Port de la Selva (Girona, 2001) awarded with the "Blue Flag" in the beaches of Argentina (Peresenda, 2009). These studies establish rotations at vigilance checkpoints and delimitation of the areas to be monitored. facts that make the levels of attention are improved (Harrell, 2001). With this and respecting the criteria set by Pascual (Pascual, 1997) a format has been designed for coordination of human resources respecting the characteristics of the sands, the number of lifeguards, distance between posts and material resources available. We should note that it has been tried to emphasize technical aspects that regulations which exist in aguatic facilities do not reflect the visibility of the sheet of water, organizing and coordinating the maximum distance between the different marked areas (Szpilman and Marcio, 2004; Andrew, 2011) and the characteristics of the vigilance checkpoints (Palacios, 1997).

3. METHODOLOGY

The study was carried out on the beaches of two municipalities of the Autonomous Community of Catalonia, particularly in sandy areas of the province of Barcelona. The data collection for this research was carried out during three months of the 2012 bathing season, in a period between June 15th and September 15th of 2012. The human resources that form part of the lifeguard and rescue services participating in the study have 46 members in total, of which 41 have been those who have participated in the study. Likewise, and to objectively evaluate the results obtained in this research, a questionnaire has been applied (Sanz, 2011) to lifeguards participants in a study, which had four closed multiple choice questions and a fifth open-ended one. The primary purpose of this tool was to be see how lifeguards value the coordination model applied in this research along the season.

3.1. How were human resources of a lifeguard service coordinated so far in the aquatic space?

As reported in the bibliography (Sanz, 2011), to explain the criteria to follow in the present study we must know the history of how the work was carried out and the distribution of functions in the spaces being studied. In the municipalities surveyed, in municipal regulations there is only the information about the number of lifeguards to be hired, but there is no mention of characteristics that they should have and places they should occupy (except that they must have a certificate to perform the work as lifeguards).

After having observed these criteria, and respecting all aforementioned, we have designed a protocol of distribution of both places to watch and rotations of

the staff as having been so long ago with a dysfunctional management, workers were accustomed to occupy the features most relevant to their areas, and relaxation and monotony was reflected in the daily work. Indeed, there are always some places more complicated than others to monitor or places which by their nature become harder, for this reason you must set a custom equitable design of areas and places also adapted to the characteristics of each worker since the service coordinator understands that the responsibility for all the sand area depends on the whole team, starting with himself and going through each and every service members. For this reason, we want to foster an attitude of respect and responsibility in the surveillance zones, so that everyone knows that roles should be based on the established area and place of influence and control over the set monitoring time.

For this reason and to make the entire workforce participate day by day and the process to follow surveillance zones were established based on the characteristics of the sand zones.

3.2. Division of aquatic space surveillance zones

The lifeguard and rescue service of the beaches in which the study has been carried out (2012) was already played by the same entity in previous seasons (2010 and 2011), and this is why we could gather all the information necessary to delimit each area objectively and professionally, attending to their own profession (Andrew, 2011; Szpilman and& Marcio, 2004) features. We conducted a detailed analysis of the beaches, establishing the adequate terminology of service and rotation system (Figure 2* *Own elaboration*), which was extended to the operation of other beaches where we conducted the study.

As it can be seen in the figure above, the sand area is divided into three distinct parts (circuit 1, circuit 2 and rocapins). This operation has been established based on the characteristics of these beaches so, if we would make the study elsewhere, we should adapt them to the characteristics of the place

Each zone was assigned a name and both fixed monitoring stations in areas of greater affluence and dynamic vigilance checkpoints in those places with fewer swimmers or those transition points were established, as this type of monitoring is used to activate and disconnect static surveillance in a specific position.

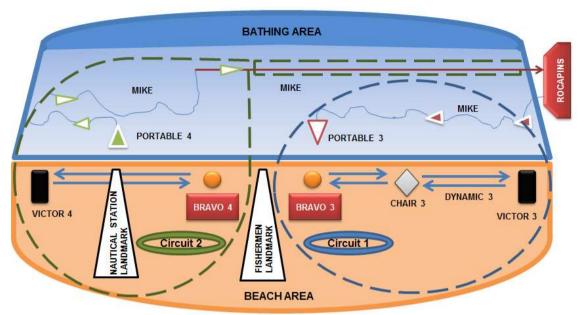


Figure 2*. System of organization and rotation of lifeguard and rescue service.

As can be seen, there is a particular terminology, which was provided to the whole team for their knowledge and described below for your understanding (Table 2):

	Table 2. Operating terminology
CIRCUIT 1	Order and rotations which lifeguards should perform when they are in the designated area.
Bravo 3	Rescue point where the First Aid module is located and where the coordinator can be found.
Chair 3	Fixed vigilant point (vigilant seat), located two metres from the sand and at a height of 2 meters.
Dynamic 3	Lifeguard performing dynamic monitoring (moving) in the corresponding schedule.
Víctor 3	Fixed surveillance spot (tower of immediate intervention), placed at 3,5 meters and with an access ramp near water.
Portable 3	Position occupied by the lifeguard who comes from circuit 2 and who approaches by the sea after having observed rocapins area (cliff).
Mike	Mike is the name of a rescue boat (launch or watercraft) and of its owner.
Fishermen landmark	Place of reference which delimits the ending of circuit 1 and the beginning of circuit 2.
CIRCUIT 2	Order and rotations to be performed by lifeguards when they are in the designated area.
Bravo 4	Rescue point where the First Aid module is located and where the coordinator can be found.
Víctor 4	Fixed surveillance spot (tower of immediate intervention), placed at 3,5 meters and with an access ramp near water.
Portable 4	Position occupied by the lifeguard who comes from circuit 2 and who approaches on Mike by the sea to observe rocapins area (cliff) and who will go to circuit 1 afterwards.
Nautical Station Landmark Note: Authors.	Reference spot which because of its location orients lifeguards from the distance which exists between Bravo 4 and Victor 4.

Note: Authors.

3.3. Creating the figure of a coordinator of lifeguard service

The figure of service coordinator is essential, as they must be the ones to manage both human resources and materials of service, covering all the mishaps that may arise, making all part of their team, to make it to the end season with an optimal level of motivation, training, respect and responsibility in accordance with the profession practised.

Among the functions that a coordinator should perform, we are highlighting the following (López and& Pérez, 2009):

• Their job is before the season, during the season and once the season is over.

• They should know the characteristics of each of their lifeguards (they should never hire).

• Fight for the rights of workers, enforcing their duties and obligations and ensuring their safety.

• Assign positions, functions and surveillance zones, and make sure they are met.

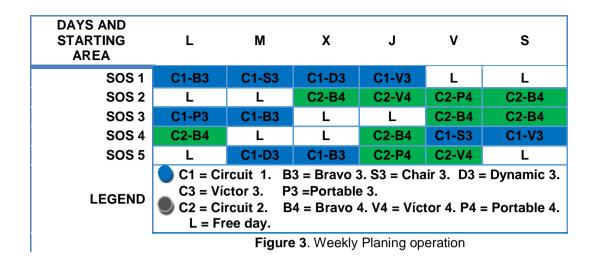
• They must be the reference person for the team, for this reason they must unite a number of characteristics of the position they occupy (experience, formation, behaviour etc.) due to the great responsibility resting upon this figure, they should have specialized training, extensive professional experience and continuous formation and outstanding leadership capacity (Palacios, 2009).

In this study four coordinators were involved, all of them met the above requirements, as they are Graduates in Science of Physical Activity and Sport, with specific expertise in Aquatic Rescue, with a mean ± 4 years (seasons) of experience as lifeguards and in turn lifeguard and rescue teachers with different entities, so that the coordinators of these services have sufficient objective capacity with the principal investigator of the study to establish both the surveillance zones, as established rotations.

Division of the beach in different areas is based on the coordination model proposed by Peresenda (2009), Harrell (2001) & Schwebel et al. (2010), in which the rotation of the lifeguards and delineation of responsibilities within the same team is recommended. Note that the rotation of the surveillance zone has been carried out based on the criteria proposed by Harrell (Harrell, 2001), to encourage motivation and attention of rescuers (Parada, 2003). On this basis the rotation system was built, which lasted forty-five minutes (45') in each specific position, leaving fifteen minutes (15') so that the positions among colleagues are exchanged and so that they can moisturize themselves/use the sunscreen to meet the standards (Gies, Glanz, O'Riordan, Elliot & Nehl, 2009; Glanz, Shigaki, Isnec, Sun & Maddock, 2011), which reflects the Law on Prevention of Occupational Risks (Head of State, 1995). All this considering that the working day is eight hours.

The allocation of places and times to monitor, has been made and distributed by the coordinators. Two days before starting the following week coordinators personally give each worker their planning of operation (Sanz, 2011), which, after having been revised, should be signed and returned to the responsible (after that you cannot make any changes). The coordinator must also assign a medical aid station, the overall functioning of the whole team must be at the disposal of all staff. An example for better understanding is shown below, with five lifeguards. (Figure 3).

The way in which workers identify the areas to monitor and timetables, is by delivering schedules, photographs of places, the map (Figure 2) and legend (Table 2) from the beach, they shall all have one sample in a personal form and likewise, one sample should be located on all fixed monitoring checkpoints.



4. RESULTS AND DISCUSSION

4.1. RESULTS

After three-months-application of the system of coordination of human resources on the beaches of the participating municipalities, the results of questionnaire applied to the 41 lifeguards study (Figure 5 and 6) are presented. Firstly, results concerning 4 closed questions are shown (1. I positively evaluate coordination performed by the coordinators of lifeguards; 2. The company has provided me the necessary material to develop my professional work; 3. I positively value the allocation of surveillance zones and their rotations; 4. Overall, my working conditions are good) and in a second phase the analysis of the open question was addressed (5. How do you think your employment status could improve?).

Closed questions

After analysing the results it is evident that the best rated question is No. 3 since 97.56% of subjects manifest agreement on the allocation of surveillance zones and their rotations.

Then, in descending order, appear valued questions $n^{\circ}1$ (90.24%), $n^{\circ}2$ (85.36%) and $n^{\circ}.4$ (70.73). On the opposite side of the valuation is question n° 4, where a higher degree of disagreement over working conditions is revealed, in comparison to other questions analysed (Table 3).

	Answer scale		
Questions	Agree N (%)	Indifferent N (%)	Disagree N (%)
Nº 3	40 (97.56)	1 (2.43)	0
№ 1	37 (90.24)	3 (7.31)	1 (2.43)
Nº 2	35 (85.36)	4 (9.75)	2 (4.87)
Nº 4	29 (70.73)	3 (7.31)	9 (21.95)

Table 3. Descriptive analysis of the results of the coordination model of
aquatic spaces (closed questions)

Open question

This form of open-ended question allowed respondents to answer each question with multiple answers, without limiting themselves to the number of them. Therefore, some of the responses emitted deal with similar issues, which is why it was decided to follow the recommendations of Sanz (2011) and put together the responses of similar/related topics under one title.

The results show that the financial compensation is the aspect to consider as a possible improvement in the employment status of all respondents (n = 41). Other highlights by rescuers as enhancers of the quality of the service provided are an increase human resources (n = 36) and longer contract duration (n = 24). However, increased material resources (n = 6) is not considered as a measure to consider for improving service quality by participating rescuers (Table 4).

Nº lifeguards	lifeguards Responses issued by the participants	
41	Increase financial remuneration.	
36	Increase human resources	
24	Longer-lasting contract (labour-temporal stability)	
16	Establish more trainings.	
13	Create an association of lifeguards to improve conventions	
9	We should fight for lifeguards' rights.	
6	Improve material resources.	

Table 4. Descriptive results before the open question n°5 "How do you think youcould improve your work situation"

4.1.1. DISCUSSION QUESTION Nº. 1

As far as the sand areas was where research was conducted are concerned, we can say that there has always been a coordinator of the service, but he/she had no special significance, i.e., they were just named it so that the council and/or the contractor had security that the service staff went to work. Following this study, coordinator has been equipped with a number of roles, rights and duties which makes it a position of great responsibility and person who retains the operation of the service. To give sense to this figure became indispensable, but for some workers it supposed a downside, as it is a comprehensive control over the group and material resources. The purpose of this amendment is merely to attempt the work done is equitable for all and each service members has security and certainty that everything is monitored and constantly improved (Pelletier & Gilchrist, 2011 ; Schwebel et al, 2010).. As can be seen, 37 of the 41 interviewed lifeguards have welcomed the work performed during the season by the coordinators.

4.1.2. DISCUSSION QUESTION Nº2

As reflected in the study by Sanz (Sanz, 2011) provision of material resources is what worries the lifeguards at aquatic facilities most. In this study over 60% of respondents claimed to disagree with the provision of materials that had been provided to them throughout the season. In this sense, we can say that in the present study this situation is significantly different, since for a 85.36% resources the company has provided them were enough.

This leads us to believe that these results are produced as why the investigation is in natural aquatic areas and training possessed by coordinators who have led it as the lifeguards in particular and the overall service are provided everything a service like this should have (López, 2012). Rescuers have specific clothing, flopi or marpa, fins, single kit with barrier mechanisms such as latex gloves and masks pocket mask, first aid kit in each position fixed surveillance, monitoring high positions, manned aid station defibrillator and oxygen therapy, spinal boards, collars, watercraft, boat, etc.

4.1.3. DISCUSSION QUESTION Nº3

Almost all workers who participated in the study (97.56%) positively the distribution of surveillance zones and the established rotation, these results are consistent with previous studies (Sanz, 2011). This allows us to state that the vast majority of the service components recognize the efforts of the coordinators in establishing quadrants (planning) and the daily work of control and allocation of areas. Many lifeguards who do their job properly reward this system, since many workers with inadequate habits who break the rules, in most cases it is the lack of control by those responsible (López & Pérez, 2009). For this reason we must not forget that the lifeguards ensure the safety of swimmers (Palacios, 2001) and it is a big responsibility (Schwebel, 2007).

4.1.4. DISCUSSION QUESTION Nº4

Working conditions that aquatic lifeguards have in natural water areas can be of two types, that the service is carried out by the municipal administration or being awarded to a private company, in both cases the terms are distinguished not so much in salary, which is paid according to the established agreement (agreement of sports facilities since the one of natural aquatic areas does not exist) but in working hours. While workers of a private entity work 40 hours a week with two adequate rest days, employees of administrations, range between 35 and 37.5 hours per week. Also noteworthy is that workers at aquatic facilities often have greater financial reward than the once in natural aquatic areas, a fact that caused controversy in the field of lifeguard, because as it is collected by Peresenda (2009) the risk of the work on beaches is much higher than in the pools or water parks, since life of a lifeguard sometimes is threatened in order to save others. In our opinion we also share this position.

The 70.73% of workers report that their working conditions are good, these results being coincident with those obtained in the study conducted by Sanz (Sanz, 2011). But no doubt they can be improved, because if you take into the account the risk of the profession, the financial reward you get for it is well below what it should correspond, this has been caused by the lack of attitude and responsibility that many lifeguards have been conducting for many years, doing much damage to the profession (Palacios, et al., 2010), and little by little through better trained people and through adding character to the water rescuer's figure, it is slowly emerging as one of the most important and valued professions, especially ahead of the summer season, since we cannot forget that Spain is a world leader in tourism and millions of tourists who bathe in 8000 km of Spanish coast.

The working conditions of the profession must gradually be improved through enhanced agreements, although we are aware that in these times, in this country it is difficult to deal with the economic aspects, especially in order to manage service resources optimally when budget headings to conduct surveillance of spaces is lower each year (López, 2013) but we must not forget that in order to give quality, professionalism is needed.

5.2.1. DISCUSSION QUESTION Nº5 (OPEN)

As can be seen, interviewed rescuers consider that human resources should be increased (Harrell, 2001), more so than material resources, a fact that contrasts with the bibliography (Sanz, 2010 & Sanz, 2011), the reason is the difference of space in which they perform their work, since natural aquatic areas generally usually provide more and better lifeguards than aquatic facilities. Besides, the same rescuers perform more demanding workouts, which helps us make a glimpse that they are aware that in this work place, they should be in top physical condition (Bores, 2011) in his job.

Also, a large percentage signs that they should be represented by an association and thereby enabled to fight for better collective agreements which regulate the profession.

5. CONCLUSIONS

The conclusions that emerge from the results and relate to the objectives in the study are as follows:

• 90.24% of lifeguards participants in a research a have welcomed the work that coordinators have performed during the bathing season.

• In the same direction, considered by 85%, the division coordinators have carried out in different areas of surveillance, the system of rotations and duration of these have been successful.

• Lifeguards' lifesaving services in natural aquatic areas, are better equipped in material resources than the ones of the rescuers who perform their work in aquatic facilities.

• Much of the aquatic lifeguards have valued their work conditions as positive, but said that those could be improved by providing greater financial reward for the work performed, with the improvement of the collective agreement that regulates the profession.

It seems necessary, as illustrated by data obtained, that this system of coordination should be extrapolated to more aquatic areas, because of the importance of facing the optimum functioning of the service, whose motto is to preserve the security of the people who bathe in our aquatic spaces.

REFERENCES

Andrew, J. (2011). Drowning and inmersion injury. Anaesthesia & Intensive Care Medicine, 12(9), 399-402. http://dx.doi.org/10.1016/j.mpaic.2011.06.004

Barné, M. (2001). Servicio de salvamento y socorrismo acuático del Ayuntamiento de Calviá. 2º Congreso de Salvamento y Socorrismo de Galicia (pp. 165-169). A Coruña: Diputación de A Coruña.

Bores, A. (2011). Análisis de la Eficacia en la Intervención del Socorrista Acuático Profesional. Departamento de Didácticas especiales.(Tesis Doctoral Inédita)Universidad de Vigo.

Consejería Sanidad y Servicios Sociales de la Comunidad de Madrid. (1998). Decreto 80/1998, de 14 mayo de la Consejería Sanidad y Servicios Sociales por el que se regulan las Condiciones higiénico-sanitarias de las piscinas de uso colectivo. Boletín Oficial de la Comunidad de Madrid 27 de mayo de 1998 (124).

García, M. (2003). El río ese gran desconocido (II). FEGUI: Revista de Salvamento Acuático y Socorrismo, 24, 11-14.

Gies, P., Glanz, K., O'Riordan, D., Elliot, T. y Nehl, E. (2009). Measured. occupational solar UVR exposures of lifeguards in pool settings. American journal of industrial medicine 52(8), 645-653. <u>http://dx.doi.org/10.1002/ajim.20722</u>

Glanz, K., Shigaki, D., Isnec, M., Sun, T. y Maddock, J. (2011). Impact of skin cancer prevention on outdoor aquatics staff: the pool cool program in Hawaii and Massachusetts. Preventive Medicine, 33(3), 155-161.

Harrell, A. (2001). Does supervision by lifeguards make a diference in rule violaions? Effects of lifeguards. Psychological Reports, 89(2), 327-330. http://dx.doi.org/10.2466/pr0.2001.89.2.327

Jefatura del Estado. (1995). Ley 31/1995, de 8 de noviembre, de Prevención de Riesgos Laborales. Boletín Oficial del Estado 10 de noviembre de 1995(269), 32590-32611.

López, S., Pérez, D. y Pérez, R. (2009). La gestión de los Servicios de Socorrismo con la crisis. A Coruña: VII Jornadas sobre Socorrismo basado en la Evidencia Científica y Soporte Vital Prehospitalario en el medio acuático. Universidad de A Coruña. Grupo de Investigación en Actividades Acuáticas y Socorrismo.

López S. (2012). Atención a personas en situación de discapacidad desde el Servicio de Socorrismo en Espacios Acuáticos Naturales. (Tesis doctoral inédita).Universidad de Vigo.

López, S. y Bejega, V. (2009). Los antecedentes históricos del socorrismo. Luanco (Asturias): I Symposium Internacional de Historia: Gentes del Mar. Historia y Arqueología en el Litoral del Arco Atlántico.

López, S., Pérez, D. y Pérez, R. (2009). Las Funciones del Coordinador de los Servicios de Socorrismo en Playas. A Coru-a: IV Jornadas sobre Socorrismo basado en la Evidencia Científica y Soporte Vital Prehospitalario en el medio acuático. Universidad de A Coruña. Grupo de Investigación en Actividades Acuáticas y Socorrismo.

López, S. (2007). ¿Cómo se organiza un servicio de salvamento? PREVIR, Actividades Acuáticas y Salvamento Profesional, 7: 33.

OMS. (2008). World report on child injury prevention. (traducción castellana en Madrid: Meditor, 2008). (Unicef ed.). Ginebra: WHO.

Palacios, J. (2013). Desde el 11 de Julio otras 17 noticias más de muertos en el medio acuático. Algo está fallando.[versión electrónica]. Recuperado el18 de julio de 2013 de: http://blogs.lavozde Galicia.es/socorrismo. Portal de la Voz de Galicia.

Palacios, J. (2013).En Espa-a ha comenzado el verano, pero también las muertes en el medio acuático. [versión electrónica]. Recuperado el 1 de julio de 2013 de: http://blogs.lavozde Galicia.es/socorrismo. Portal de la Voz de Galicia.

Palacios, J., Barcala, R., Vales, C., López, S. y Pérez, D. (2010). Formación y Didáctica en Socorrismo Acuático Profesional. A Coruña: Fundación Universidade da Coruña. Grupo de Investigación en Actividades Acuáticas y Socorrismo (GIAAS).

Palacios, J. (2009). Competencias y módulos formativos para el coordinador de socorrismo en espacios acuáticos. In J. Palacios Aguilar (Ed.), IV Jornadas de socorrismo basados en la evidencia científica y soporte vital prehospitalario en el medio acuático. La coordinación de los servicios de socorrismo. A Coruña: Universidad Da Coruña.

Palacios, J. (2008). Socorrismo acuático, formación para la prevención y la intervención en el medio acuático. A Coruña: Sa De Ga.

Palacios, J. (2001). Gestión y Salvamento Acuático en playas: condiciones ideales de los servicios de salvamento y socorrismo. San Sebastián: I Congreso de Salvamento Acuático de Donosita San Sebastián. Donosita. Parque de bomberos de San Sebastián.

Palacios, J., Iglesias, O., Zanfa-o, J., Angueira, G. y Parada, E. (1998). Salvamento Acuático, Salvamento Deportivo y Psicología. A Coruña: Xaniño Editorial.

Palacios, J. (1997). Salvamento Acuático y primeros auxilios. Madrid: Federación Española de Salvamento y Socorrismo.

Parada, E. (2003). Manejo psicológico de la emergencia. PREVIR. Actividades acuáticas y socorrismo profesional, 4:165-172.

Pascual, L. M. (1997). La vigilancia en el salvamento acuático I Jornadas Técnico Profesionales de Salvamento Acuático. Segovia.

Pascual, L. M., Sanz, P. y Barrio, B. (2001). Campa-a piscina azul 2000 Libro de actas del 2º Congreso de Salvamento y Socorrismo de Galicia (pp. 139-163). A Coruña: Xañino.

Pelletier, R. y Gilchrist, J. (2011). Fatalities in swimming pools with lifeguards: USA 2000-2008. Injury Prevention, 17(4), 250-253. <u>http://dx.doi.org/10.1136/ip.2010.029751</u>

Port de la Selva (Girona). (2001). Condiciones del servicio de salvamento y socorrismo en las playas galardonadas con bandera azul Port de la Selva (Girona) 2º Congreso de Salvamento y socorrismo de Galicia (pp. 67-77). A Coruña: Diputación de A Coruña.

Peresenda, D. (2009). Coordinación servicio de guardavidas. In J. Palacios Aguilar (Ed.), IV Jornadas de socorrismo basados en la evidencia científica y soporte vital prehospitalario en el medio acuático. La coordinación de los servicios de socorrismo. A Coruña: Universidad Da Coruña.

Peresenda, D. (2007). Salvamento Acuático. Fundamentos técnicos, tácticos y estratégicos del rescate acuático. Buenos Aires: Aguaseguras editora.

Sanz, I. (2011). La coordinación de socorristas en piscinas con grandes láminas de agua. Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte vol. 11 (44) pp. 650-673.

Sanz, I. (2010). Rescate de accidentados con posible lesión de columna vertebral en el medio acuático. In V. Martínez de Haro (Ed.), Actividad física, salud y calidad de vida (pp. 271-284). Madrid: Fundación Estudiantes.

Schwebel, D. C. (2007). Ecology of drowing risk at the public swimming pool. Journal of safety research, 38 (3), 367-372. http://dx.doi.org/10.1016/j.jsr.2007.01.010

Schwebel, D. C., Heater, J., Holder, E. y Marciani, F. (2010). Lifeguards: A forgotten aspect of drowning prevention. Injure & Violence, 2(1), 1-3. http://dx.doi.org/10.5249/jivr.v2i1.32

Szpilman, D. y Marcio, S. (2004). In-water resuscitation-is it wortwhile? Resuscitation, 63(1), 25-31. <u>http://dx.doi.org/10.1016/j.resuscitation.2004.03.017</u>

United States Lifesaving Association (1981). Lifesaving and Marine Safety. Piscataway (Nj-EEUU): New Century Publishers, Inc.

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