

A Study on Multiple Drowning Syndromes

Adnan Turgut

School of Physical Education and Sport, Akdeniz University, Antalya, Turkey

Abstract: Non-intentional drowning accidents remain a leading cause of mortality in Turkey as well as in the rest of the world. A following related secondary syndrome is composed of those who drown accidentally during altruistic attempts to go to the aid of a drowning person. Aim of this study is to define and examine the possible multiple drowning syndrome and these ironic incidents and suggest preventative measures for the situation. Twenty-six incidents were analysed to find out the characteristics of “rescuers” and drowned primary victims. An increased awareness of such risks, promotion of swimming skills, training the public in simple and basic life-saving skills of both the contact and non-contact rescue approach may help to reduce multiple drowning tragedies by using various media formats for educational purposes.

Key words: Drowning; lifesaving in water • Non-contact water rescue • Prevention • Water safety

INTRODUCTION

Drowning is defined as the process of experiencing respiratory impairment from submersion/immersion in liquid [1]. As World Health Organization, in 2004 an estimated 388,000 people died from drowning, which makes drowning a major public health problem globally. Deaths caused by injuries account for nearly 10% of total global mortality. Drowning is the third leading cause of unintentional injury death, accounting for 7% of all injury-related deaths [2]. Merson, Black, & Mills suggest that drowning was the second leading cause of unintentional injury death globally after road traffic injuries in 2000 [3]. At the end of the 1990s, the World Bank and World Health Organization (WHO) released the first Global Burden of Disease (GBD) study. It showed that, worldwide, drowning is one of the most common causes of death [4]. Here are some statistical data available about drowning: Low- and middle-income countries account for 96% of unintentional drowning deaths; over 60% of the world's drowning occur in the WHO Western Pacific Region and WHO South-East Asia Region; drowning death rates are highest in the WHO African Region and are more than eight times higher than in Australia or the United States of America (USA); China and India have particularly high drowning mortality rates and together contribute 43% of the world's drowning deaths [2].

Reduction of these preventable deaths requires heightened advocacy and intensified research in both national and international contexts [5]. In Turkey, in a period of eight years (1999–2008), a total of 1,407 (1,139 male and 268 female) Turkish citizens drowned [6]. This situation in Turkey illustrates the need to build up a preventative approach system(s) which involves public education campaigns in different ways. Firstly, the government is responsible for warning the public about the risk of drowning. It also needs to be followed up by increasing the rate of swimming proficiency in the population and the improvement of water safety skills among swimmers.

In drowning incidents there are often witnesses around who mostly attempt to rescue the victim/s. In such a life-threatening situation, the potential rescue attempt can be applied from land, boat or in the water by using contact or non-contact rescue techniques with the aid of equipment such as rope, sticks or any other buoyant materials and should be followed by reanimation applications [7-10]. Such attempted rescues, usually by a parent or relative may result in an extension of the tragedy of the child drowning and result in the death of the rescuer. Franklin and Pearn called this situation as the Aquatic Victim-Instead-of-Rescuer (AVIR) syndrome. Tragically, this AVIR syndrome of rescuer-victim is all too common. Even in a developed country such as Australia, it is reported that over 15 years (1992-2007) 86

“rescuers” have drowned in attempts to rescue a PDV who was mostly a child [11].

The AVIR syndrome features regularly in newspaper reports in Turkey as well as in other countries [12-17]. Kruger suggests that, one’s intention to perform a helping (or other) behaviour could be based on the judgement that it is rational, ethical and/or one feels obligated to perform the action. Despite the importance of the issue, it has not been sufficiently examined at an academic level, or by government bodies [18]. All the cases involve the altruistic and instinctive impulse to save a drowning individual’s life. It is supposed that “rescuers” attempt to save one’s life instinctively, even in dangerous situations, without taking into consideration that they may lose their own lives which means multiple drowning syndrome.

Aim of this study is to define and examine the possible multiple drowning syndrome and these ironic incidents and suggest preventative measures for the situation.

MATERIAL AND METHOD

For this study, online archives related to drowning have been searched via “www.google.com” and “www.yahoo.com” using the keywords “drowning, drowned in attempted rescue action, rescued and drowned”. The reports on cases of drowning were collected from national news agencies, Turkish daily newspapers’ websites, national online news websites and regional/ local news websites, dated between January 1st and December 31st 2010. The details of the reports were examined to find out the personal details of the “rescuer/s” and the “drowning person/people”. Furthermore, details were taken of the location, site of drowning, purpose in being there, relationship to PDV and number of victims. Only cases resulting in the death of the “rescuer/s” were studied. Therefore this study includes every case of fatal immersion in fresh water including rivers, creeks, ponds, lakes, dams, irrigation canals and building holes, as well as in salt water. Data were retrieved for victims involved in all activities including swimming, fishing, having picnics, entry into the water, sightseeing or accidental falls.

For this study, a child is recognized how United Nations Convention on the Rights of the Child expresses: “a child means every human being below the age of 18 years” [19].

There were some limitations in this study. Unfortunately, it was not possible to collect enough information either about the “rescuers” who succeeded in

rescuing a PDV, or about victims who survived at the end of attempt. Therefore, it has not been possible to identify the details of people involved in successful rescue attempts, whether rescuers or PDV’s. Furthermore, it was also not possible to collect more detailed data about the drowned people to analyze them more qualitative because of the limitations of data sources.

For this study, the Statistical Package for Social Sciences 18.0 for Windows (SPSS) has been used to analyse Descriptive statistics including Frequency, Mean and Standard Deviation.

RESULTS

This study includes 26 cases which occurred in Turkey in 2010. 28 victims (*Mean*= 29.11 years, age range: 10-62 years) drowned in attempts to rescue a PDV, 29.6% of them were children. 16 PDVs drowned (*Mean*= 18.06 years, age range: 4-49 years), 75% of them were children.

Table 1: Details of 28 “rescuers” and information on 26 drowning incidents

Age	n	<i>M (years)</i>
Child	8	15.38
Adult	20	34.60
Total	28	29.11
Gender	n	%
Male	24	85.7
Female	4	14.3
Total	28	100
Site of drowning	n	%
River/creek/stream	9	32.1
Beach/Coast	9	32.1
Lake/dam/water hole	6	21.4
Irrigation Canal/Pool	3	10.7
Building Hole	1	3.6
Total	28	100
Relationship between PDV –“rescuer”	n	%
Friends/Colleagues	11	39.3
Strangers	5	17.9
Parent-Son/Daughter	3	10.7
Sibling	3	10.7
Uncle-Nephew/Niece	2	7.1
Teacher-Student	1	3.6
Owner - Dog	1	3.6
Lovers	1	3.6
Grandparent/children	1	3.6
Purpose of being there	f	%
Swimming	13	46.4
Having Picnic	7	25.0
Sightseeing	5	17.9
Fishing	3	10.7
Total	28	100

Table 2: Details of 16 drowned primary victims in 26 incidents

Drowned Primary Victims	Female	Male
Child	2	10
Adult	1	3
Total	3	13
Age (years)	14.67	18.85
Age range (years)	4-31	10-49

In 39.3% of cases “rescuers” and PDVs were friends or colleagues. 24 were males. 21 cases (74.9%) occurred in June, July and August. In three cases was alcohol known to have been consumed prior to the rescue attempt. 42.9% of “rescuers” were successful in their attempts. 85.8% of incidents occurred in villages or small towns. In one of the cases there was only one PDV at the beginning, but four people drowned in the end. In another incident grandfather drowned during his attempt to rescue his twin grandchildren (Table 1 and Table 2).

DISCUSSION

People usually attempt to rescue a PDV instinctively. And this instinctive attempt is quite risky if it is done without any training or experience. Mostly people are not trained for such drowning incidents. In Turkey there have been 28 “rescuers” who drowned during their attempts in 2010. The situation in other countries shows some differences compared to Turkey. Between the years 2002 and 2007 there were 27 “rescuers” drowned during their attempts in Australia [11] and in Ireland there have been 8 “rescuers” drowned during their attempts as well as 6 cases of other would-be “rescuers” who had to be rescued themselves by a police officer between the years 2001 and 2006 [20]. In Turkey the number of drowned “rescuers” is too high in comparison to the annual mean of Australia (5.4 persons/year) [11] and to the annual mean of Ireland (1.6 persons/year) [20].

9 of 26 attempts (29.6%) to rescue the lives of others occurred on coastal sites. This situation conflicts with the reality that Turkey has a very long coastline (8.333 km). 10 out of 17 rescue attempts occurred on the beach or in the sea in Australia [11]. Most drowning incidents involving “rescuers” in Turkey, occurred in fresh water hazards (17 of 28), in contrast to the situation in Australia. Ahrendt suggests drowning incidents mostly occur in natural water hazards. Bath tubs and swimming pools have a lower proportion of drowning accidents [21].

In Australia, 60% of “rescuers” were parents-son/daughter, 27% were uncle-nephew/niece [11].

In Turkey parents-son/daughter and uncle-nephew/niece relationship were in total 17.8%, most of them (39.3%) were friends or colleagues.

Age range of drowned primary victims is 4-49 years in this study. In USA the mortality rates from drowning in pools of water peaks around 24 months and it is noted that, 85% of drowning in pools of water result from the young child falling into water. The desire for autonomy produces behaviours that lead to common toddler injuries [22].

12 of “rescuers” (42.9%) managed to rescue the PDV’s life and drowned on their attempts. The rate in Australia is 93%, which is quite high compared to Turkey [11].

CONCLUSION

There are almost no studies on drowning incidents in Turkey. In many other countries as Germany, New Zealand etc. there are system founded for recording incidents. In Turkey it is started in the European Union process, but detailed data about incidents in statistical reports are still not sufficient. To build up the interest of policy makers, it is important to present sufficient data on this tragic and leading unintentional cause of death.

If the issue is someone drowning, people in Turkey attempt to rescue victims in the same way as people over the world people do. For that reason it is important to train people for such incidents. The citizens of Turkey are deficient in swimming skills, despite its very long coastline and very rich fresh water hazards. Swimming must be a part of the educational system starting from the pre-school ages to improve the swimming ability. Because the primary purpose of educational institutions and schools are to prepare students for the real life to apply what they learnt during their education [23].

The age range of drowned “rescuers” and drowned primary victims is too wide. For that reason firstly, the swimming ability and proficiency of the general population, public awareness of lifesaving should be developed. Lifesaving courses should be provided for all age groups by both formal and private training associations in both rural and urban sites. Public should be informed about lifesaving by using the visual, audio and print media especially prior to the summer period and during the summer months. Tragically, drowning incidents occur in manmade water hazards such as building holes, irrigation canals/pools and in dams too, where drowning might be very easily prevented by guards, fences or laws banning entry into risky water hazards.

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