
Water Safety in Selected Countries on the Example of Norway and Poland

Submitted 02/08/23, 1st revision 20/08/23, 2nd revision 16/09/23, accepted 30/09/23

Maria Adamczyk¹

Abstract:

Purpose: The purpose of the article is to present the possibilities of identifying model solutions for drowning prevention strategies.

Design/Methodology/Approach: Critical analysis of the literature. Analysis of a model solution in Norway and comparison with Polish conditions.

Findings: This article examines the phenomena that are occurring in terms of water safety ordnance on the example of Norway. Attention is given to strategic model solutions.

Practical Implications: The conducted research indicates that it is important that education in swimming lessons and water safety in the broadest sense be carried out in a comprehensive manner from an early age. Solutions have been proposed that can serve as a model.

Originality/Value: The article presents the results of own desk research. The issue presented has not previously been addressed in discussions published internationally.

Keywords: Safety, water safety, drowning prevention strategy.

JEL codes: I120, I180.

Paper type: Research article.

Research funding: The project is financed within the framework of the program of the Minister of Science and Higher Education under the name "Regional Excellence Initiative" in the years 2019 – 2022; project number 001/RID/2018/19; the amount of financing PLN 10,684,000.00.

¹University of Szczecin, Institute of Socio-Economic Geography and Spatial Management, Szczecin, Poland; maria.adamczyk@usz.edu.pl;

1. Introduction

The water environment is not part of the natural area of human life. Any stay in an aquatic area involves the risk of loss of life or health. There are dangers and accidents of drowning of people in water areas. Drowning statistics in Poland indicate that drowning most often occurs in rivers, lakes and the sea (less often in swimming pools). The drownings are mostly adults who overestimate their skills.

More than 85% of drownings in Poland are adult males. It is also worth noting the facts indicating that more than 80% of drowning cases take place in the province of residence of the victim, more than 25% of the victims are under the influence of alcohol or other drugs, where in about 40% of cases the police did not determine the state of sobriety of the victims.

In the summer, almost every day at least one person loses his or her life in the water. Last year, 326 people drowned in Poland. Between 1998 and 2021, some 13,514 people drowned in Poland (Drownings).

The most common circumstance of drowning was swimming in an unguarded - but not prohibited - place. This means that drowning is one of the most common causes of unintentional injury or loss of life and, as a cause of death, accounts for as much as 7% of all deaths, which sets it as one of the most important problems in Poland and the world.

Despite the fact that Poland is a country that has ensuring safety in its strategic tasks the rate is 2.1 accidents per 100,000 inhabitants [...]. This places it between highly developed countries - providing safety on the water, and low developed countries - which do not have such a task. One of the factors in the occurrence of this group of accidents may be easy access to unguarded bodies of water along the Baltic Sea coast and in inland waters.

Preventive activities carried out by services in Poland are aimed at raising awareness and preventing incidents that threaten human health and life. Each of the organizations (e.g., police, firefighters, entities authorized to perform water rescues) that have this type of activity in their statutory and regulatory tasks disseminates knowledge within the scope specified for the service (National Security Strategy of the Republic of Poland, 2014).

The risk of life from this category of event in Poland is much higher than the average in the European Union. According to the WHO, populations of countries with easy access to water areas in their terrain are in the risk group for drowning. Poland is one of them as a country differentiated by the presence of surface and groundwater (Miluch *et al.*, 2018).

The purpose of this article is a theoretical consideration of an attempt to determine the direction of preventive and educational activities aimed at implementing drowning prevention strategies in Poland with reference to the assumptions made in Norway.

2. Literature Review

Security refers to a broad, multifaceted range of basic social needs such as the need for existence, survival, certainty, stability, wholeness, identity, independence or protection of the level and quality of life. Security, being the supreme need of human beings and social groups more broadly, is also a basic need of states and international systems, and its absence causes anxiety and a sense of threat not only in the individual aspect, but also more broadly in the context of many social groups, nations (Skalski, Debski, Lizakowski, Czarnecki, Glazik, and Zwara, 2018).

Water security depends on systemic solutions implemented at different levels of state security management, but also concerns sectoral rescue entities implementing this area of security. The subject and object scope of water security indicates its interdisciplinary nature and concerns the interest of several scientific disciplines: socio-economic geography and spatial management, health and physical culture sciences, and security sciences.

Water security concerns legal and organizational aspects, but also environmental spatial considerations. An additional element of water security in highly developed countries is also the growth in the importance of rescue organizations taking over the tasks assigned to the state in this field and rescue in water areas.

The research area of water safety is social behavior and activities over water areas. The subject under study is man, his place in the aquatic environment and the behaviors he follows during aquatic activities (Telak, Skalski, Zielinski, and Czarnecki, 2020).

It should be emphasized that security is a public good, and its aspects in this regard refer to:

- awareness of the existence of a real threat,
- the lack of such awareness despite the existence of a threat,
- lack of awareness of the possibility of countering the threat,
- false awareness of a threat that does not actually exist.

Water safety encompasses practical skills and social competencies in the broadly understood use of water areas with respect for safety principles and in accordance with applicable laws, technical possibilities, civilization conditions and principles of sustainable development. The main goals of ensuring water safety are related to responsible and safe management of aquatic resources, hazard analysis and risk

estimation, management of water activities, application of effective rescue procedures, proper selection and optimal use of specialized equipment (Skalski, 2018).

Therefore, it should be emphasized that particularly important are the applied rescue and civil protection systems, which are playing an increasingly important role in ensuring universal security, going beyond national borders. Particularly noteworthy are the solutions used in Norway, which aim to prevent drowning and build a whole system of educating the public on how to take care of water safety (WHO, 2020).

3. Results – Analysis of the Water Security System in Norway

Norway bases its national drowning prevention strategy mainly on the acquisition of so-called survival skills by the public. The skills indicated refer to an emergency situation in the water caused by some stressor. Appropriate behavior in such a situation can affect the survival of the affected person. With regard to the chain of drowning survival, they form the basis of social skills that can directly affect the minimization of the number of drowning people in the country.

Figure 1. Chain of survival in case of drowning New Zealand rescue organization "Surf life saving New Zeland";



Source: Szpilman, 2019.

This can be achieved through the widespread teaching of water competence. Water competence in the context of drowning prevention is understood as the sum of all personal water movements that help prevent drowning, as well as related water safety knowledge, attitudes, values, judgments and behaviors that facilitate safety in, on and around water (Moran, 2013).

The teaching of aquatic competence in Norway takes place during common lessons at school. If there is no swimming pool in the village-didactic classes are conducted outside. Even when the temperature is 4 degrees Celsius. The beginning of learning takes place from an early age during classes called baby swimming, sequentially continuing in elementary school during compulsory lessons.

It has been diagnosed that in Norway even very good swimmers drown (80%). It is recommended that every swimmer increase competence in rescue skills. However, it is important to note that one does not need to be a master swimmer to be a lifeguard. Any person, not involved in swimming and rescue, should acquire skills and competencies in water survival and/or swimming, as well as in self-rescue and water rescue, including the ability to perform effective CPR.

The creation of a drowning prevention program in Norway was guided by the teaching of water competence as an important factor in drowning prevention (Stallman *et al.*, 2017). Special attention was paid to the formation of attitudes and values related to water safety in society. Norwegian curricula and training programs include both swimming and open water competencies.

Another key point of the program is the acquisition of basic knowledge and skills in risk estimation and assessment of personal competence in risk-taking. The stated goals can be achieved by creating a safe environment, using fun learning methods, in a local environment.

Elements of sports water rescue can be introduced into classes to make them more attractive. The main goals of universal education directed at water safety in the broadest sense are for the public to achieve the following skills.

In the course of education, an elementary school student is required to:

After 2nd grade:

- practice the rules of water safety and calling for help
- BRM - following the principle of "better than myself".

After 4th grade:

- be able to swim - the formation of swimming skills takes place. To perform the following test: fall into deep water, swim 100 m. on your belly, dive and pick up an object from the bottom, stop and rest in 3 minutes (belly swimming, orientation, back swimming), then swim 100 m. on your back and get out of the water.
- Develop competence in swimming skills to prevent drowning.

After 7th grade:

- develop basic swimming techniques - on the belly, on the back and underwater.
- Assess safety in outdoor activities, activities in the natural environment and the ability to practice water safety.
- Competence in dealing with the water environment - focus on their own water safety.

After the 10th grade:

- are able to swim various sport styles at a distance depending on the person's skills
- understand and be able to perform rescue operations in an outdoor aquatic environment.
- learning and conducting first aid - understand and be able to perform first aid - including in a drowning situation.
- Risk estimation in the environment (independently) - Be able to perform - risk assessment in the environment.

This system is a powerful tool to increase public safety in the context of reducing drowning in Norway. It can provide a kind of map of measures whose implementation can make a decisive difference in reducing this procedure, in any country that decides to implement it.

4. Discussion

Ensuring the safety of people in water areas involves, in particular: conducting a hazard analysis, including the identification of places where danger exists; marking and securing areas, facilities and equipment intended for swimming, bathing, sports or recreation in water areas; conducting preventive and educational activities on safety in water areas, consisting in particular of: raising awareness of the risks associated with the use of water areas, informing and warning about weather conditions and other factors that may cause hindrance or danger to the health or life of persons; providing conditions for organizing assistance and rescue of persons who have had an accident or are in danger of losing their life or health.

In addition, skills such as:

- survival basics
- being informed about the "dangers of water"
- being informed on how to behave in, on, over or under water
- Being able to orient oneself after falling into the water
- being able to swim (perhaps after removing heavy clothing)
- having the knowledge and skills on how to get out of the water
- having knowledge of self-rescue
- Early training of children and parents, as well as water sports, can help develop and improve these skills.

Arousing public awareness of drowning and the risks involved should also be considered crucial integrating water safety NGOs. Policies and an efficient information and training system are also important.

5. Conclusions

The World Health Organization (WHO) in a report on drowning pointed out that prevention should be based on ten actions (Czapiewski, 2016):

- installing barriers that limit access to water;
- organizing facilities for preschool children at a greater distance from water bodies;
- distance from water bodies;
- Teaching school-age children about swimming, water safety and safe assistance;
- training citizens in safe rescue and CPR;
- Increasing public awareness of drowning, emphasizing the vulnerability of children to this type of danger;
- Establish and enforce regulations for the safe use of floating facilities;
- Reducing the risk of flooding and minimizing its effects;
- coordinate drowning prevention activities among institutions and organizations;
- Prepare a national water safety plan;
- Conducting well-designed scientific research on selected drowning issues (e.g., how to effectively teach swimming, how to effectively convince people to behave safely, how to use modern means of communication in warning systems).

It is also believed that the quality of rescue security is one of the most important elements affecting the safety of people in water areas - not only in the context of drowning, but also the risk of suffering various types of injuries.

The profile of prevention activities in Poland is defined by the legislator in Article 4 of the Act of August 18, 2011 on the safety of people in water areas. The tasks specified in the law are assigned to water area managers (Law, 2011).

However, the broad prevention that is part of the national strategy should be planned and implemented nationwide. No single entity, such as an agency, can ensure water safety; it requires all agencies to work together in partnership (WSS, 2022).

It is important to increase public awareness and, consequently, carry out preventive and preventive activities in the country. There is a need to accurately diagnose the process based on public surveys.

References:

- Czapiewski, T. 2016. Regulacja w celu deregulacji. Polityka bezpieczeństwa na obszarach wodnych w Polsce. *Wrocławskie Studia Politologiczne* 21/2016.
- Constitution of the Republic of Poland, the Act of April 2, 1997 (Journal of Laws No. 78, item 483).
- Skalski, D., Dębski, S.S., Lizakowski, P., Czarnecki, D., Glazik, R., Zwara, R. 2018. Powiat a bezpieczeństwo. Rola samorządu terytorialnego. In: red. P. Lizakowski, D. Skalski, S. Dębski, R. Zwara, *Bezpieczeństwo, Zdrowie i Kultura Fizyczna, Wybrane zagadnienia, Tom 8, Wydawnictwo PSW w Starogardzie Gdańskim, AMW w Gdyni i AWFIS w Gdańsku, Gdynia–Gdańsk–Starogard Gdański.*
- Skalski, D. 2018. Zarządzanie kryzysowe i bezpieczeństwo wodne. Wybrane aspekty ratownictwa wodnego, *Pomorska Szkoła Wyższa w Starogardzie Gdańskim przy udziale Akademii Wychowania Fizycznego i Sportu im. Jędrzeja Śniadeckiego w Gdańsku i Towarzystwa Naukowego w Grudziądzu, Gdańsk – Starogard Gdański.*
- Telak, J., Skalski, D., Zieliński, E., Czarnecki, D. 2020. *Bezpieczeństwo, zarządzanie, medycyna i kultura fizyczna: wybrane zagadnienia (Vol. 4). Akademia Wychowania Fizycznego i Sportu im. Jędrzeja Śniadeckiego w Gdańsku.*
- Stan środowiska w województwie zachodniopomorskim, Raport 2018 pod red. Andrzeja Milucha. Available online: <http://wios.szczecin.pl/files/0E399354174F46759C9CDAA5714558F6/Stan%20środowiska%20w%20województwie%20zachodniopomorskim.%20Raport%202018.pdf>.
- Strategia Bezpieczeństwa Narodowego Rzeczypospolitej Polskiej [National Security Strategy of the Republic of Poland] (2014), Biuro Bezpieczeństwa Narodowego, Warszawa. Available online: <https://www.bbn.gov.pl/ftp/SBN%20RP.pdf>.
- Szpilman, D., Webber, J., Quan, L., Bierens, J., Morizot-Leite, L., Langendorfer, S.J., ... Lafgren, B. 2014. Creating a drowning chain of survival. *Resuscitation*, 85(9).
- Światowa Organizacja Zdrowia. <https://www.who.int/campaigns/world-drowning-prevention-day/2023>
- Telak, J., Telak, O. 2018. Bezpieczeństwo na polskich śródlądowych obszarach wodnych - współczesne uwarunkowania. *Przedsiębiorczość i zarządzanie*, T. 19, z. 8, cz. 2 *Bezpieczeństwo i zagrożenia kryzysowe. Źródła i rodzaje zagrożeń bezpieczeństwa publicznego*, 247-259. Wyd. SAN.
- Ustawa z dnia 18 sierpnia 2011 r. o bezpieczeństwie osób przebywających na obszarach wodnych [Act of 18 August 2011 on the safety of people staying in water areas (Journal of Laws of 2011, No. 208, item 1240).
- Ustawa z dnia 8 września 2006 r. o Państwowym Ratownictwie Medycznym [Act of September 8, 2006 on the State Medical Rescue, (Journal of Laws No. 2019 item 993).
- Utonięcia Available online: <https://rcb.gov.pl/utoniecia/>.
- Utonięcia Available online: <https://statystyka.policja.pl/st/wybrane-statystyki/utoniecia>.
- World Health Organization. Global report on drowning: preventing a leading killer. https://www.who.int/violence_injury_prevention/global_report_drowning/en/.
- World Health Organization. Preventing drowning: an implementation guide. Available online: <https://www.who.int/publications/i/item/preventing-drowning-an-implementation-guide>.