ORIGINAL ARTICLES

Awareness of Parents/Caregivers on Child Drowning Prevention in 8 provinces in Viet Nam, 2018

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ABSTRACT

Objective: To describe the awareness of parents and caregivers on drowning prevention for children under 15 in 8 provinces, Viet Nam, 2018.

Methods: A cross-sectional study was carried out on 849 people who are parents/caregivers representing households with children under 15, living in the same area with drowning cases being recorded in statistics for the period 2015 - 2017. Data collection was conducted through quantitative interviews with structured questionnaires.

Findings: Awareness of parents/caregivers on child drowning risk and prevention was fairly good. A high proportion of parents (98.4%) considered ponds, lakes and rivers as the most risky places for drowning. Boys were at a higher drowning risk compared to girls; 92.1% of parents thought that swimming lessons were an effective drowning prevention measure and children should start learning to swim at the age ranging from 6 -11 (61,8%).

Conclusion: Parents/caregivers had awareness of risk factors, causes, possibilities as well as drowning prevention measures for children.

Key words: *child drowning, awareness, needs, drowning prevention*.

BACKGROUND

Drowning is one of the global public health issues. According to 2017 global statistics on disease burden, it is estimated that more than 295,000 cases died of drowning worldwide, being responsible for more than 16 million DALYs (1). Over 90% of drowning cases takes place in low-and-middle income countries (LMICs) and more than half occurs in Western Pacific and Southeast Asia regions (2, 3). In Viet Nam, drowning is the leading cause of injuries for children from 2-14 years of age. As reported by recent drowning data in Viet Nam (2014), the number of people died of drowning reached up to 5,767 cases, and 46% in children under 15 years old (4). Parents' and caregivers' awareness of child drowning in community was known as a concern when implementing community interventions. A study on knowledge, attitude and practice of parents in the Philippines about child drowning

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in the rural areas illustrated the high rate of knowledge on both child drowning prevention and child supervision (65-99%), nevertheless knowledge on child drowning prevention with specific situations and high risk locations should be improved (5). A cross-sectional study on drowning risk factors and community awareness conducted in Bangladesh also revealed the good knowledge on high risk drowning locations (ponds, lakes, etc.) and that the majority of drowning cases occurred in the midday time. However, community people had a mistaken notion about the age when they thought that 5-10 year-old children are more prone to drowning, which differs from data in that community when most drowning deaths occurred in children aged from 6-15 years (6).

According to a baseline study on causes of child deaths covering this study sites, drowning occurred in all age groups of children, with the highest mortality rates found in children aged 6-15 (42.3%) and less than 3 years (31.5%). Two thirds of drowning children were boys, and the time period from May to October saw the highest number of drowning cases in the year while the most risky time in a day was from 7:00-17:00 hours. Rivers, ponds in the proximity of a house and ponds, lakes, streams and rivers outside the house are dangerous places prone to drowning and almost deaths due to child drowning (99.2%) took place in these areas. The distance from houses to drowning locations is greater than 600 meters. However, the average distances vary among provinces. It is worth to note that the distances to drowning locations is just about 200m from houses in some provinces having more natural water bodies (in such provinces as Ninh Binh, Dong Thap and Soc Trang). The majority of child drowning cases happened while children were on their way outing to have fun or go swimming with their friends. No surrounding support was given to more than 50% of drowning cases and 95% of cases had already died upon being found (4).

With the purpose to lessen the burden of child drowning, project interventions to prevent drowning in children under 15 are about to be carried out in Viet Nam for the period 2018-2023 (7). Two intervention models are planned by the project for implementation: safe swimming courses for children 6-15 years of age and supervision programme for children under 6.

This article is extracted from the baseline survey of the original study on ***Vietnamese child drowning intervention project***, to achieve the goal of describing parents'/ caregivers' awareness on drowning prevention for children under 15 in 8 provinces in Vietnam in 2018.

METHODS

Study design: A descriptive cross-sectional study.

Study sites and duration: This research was conducted in 29 districts of 8 project provinces, including Lao Cai, Yen Bai, Ninh Binh, Quang Binh, Thanh Hoa, Dak Lak, Soc Trang, Dong Thap from May to October, 2018.

Subjects: Parents/caregivers who take care of children under 15 years old, and live in the same area with child drowning cases in the period 2015-2017.

Sample size and sampling

All selected districts had the high rate of child drowning and the authorities agreed

to incorporate with intervention project. Subjects were selected with cluster sampling method. Research team made the list of under 15 year-old children who died of drowning according to death record book (A6 book) of the commune health station and drowning statistics of the district Labor, Invalids and Social Affairs Office, with the total of 290 defined cases. Based on these lists, all households having children under 15 residing in the same areas with drowning cases were selected. One person who is a parent or caregiver from every household was picked up. A total of 849 households met the inclusion criteria.

Variables

The main variables which were used in the study includes: demographic information, age, gender, education level, number of children under 15, distance between house and school, and awareness of child drowning.

Data collection

One person representing the household who is a parent/caregiver was interviewed with a structured questionnaire.

Data analysis

Data was collected through Kobo Toolbox, and univariate descriptive analysis was performed using STATA 14.0.

Research ethics

This study was approved by the Hanoi University of Public Health Ethics Committee, Decision No. 018-370/DD-YTCC. Interviewers introduced study information and requested for the consent from study subjects prior to the interview. Data was used for study purpose only and personal information was fully kept confidential.

RESULTS

A total of 849 subjects representing households with 1,445 members who are children under 15 took part in this study in 8 provinces.

Table 1. General information on sample of household survey (n=849)

Characteristics		n	%
Gender	Male	243	28.6
	Female	606	71.4
Age group	<30	199	23.4
	30-45	484	57.0
	46-55	97	11.4
	55+	69	8.1
Education level	Never attending schools	45	5.3
	Primary school	142	16.7
	Secondary school	241	28.4
	High school	189	22.3
	College/University or higher	232	27.3

Characteristics		n	%
Occupation	Farmer/fisherman	371	43.7
	Government employee	268	31.6
	Non-government employee	26	3.1
	Self-employment	112	13.2
	Housewife/unemployment	66	7.8
	Others	6	0.7
Marital status	Single	13	1.5
	Married and living with spouses	882	96.8
	Divorced	9	1.1
	Others	5	0.6

Respondents' general information is shown in Table.1. The majority of respondents are female (71.4%) and more than half of them come from age group of 30-45 years. 50% of them gained the education level of high school and higher. For occupation, those who work as farmers/fishermen accounted for the highest proportion, followed by government employee. About 97% of respondents got married and have been living with their husbands/wives.

Table 2. General information on children living in the household (n=1442)

Characteristics		n	%
Gender	Male	734	50.9
	Female	708	49.1
Age group	1 - <3	241	16.7
	3 - 5	393	27.3
	6 - 15	808	56.0
Swimming ability of children 6-15	Yes	118	14.6
	No	690	85.4
Level of education	No school	308	21.4
	Kindergarten	397	27.5
	Primary school	529	36.7
	Secondary school	208	14.4
School time	Morning only	162	14.3
	Afternoon only	49	4.3
	All day (lunch at school)	491	43.3
	All day (lunch at home)	432	38.1

Characteristics		n	%
People going to school with children	Go alone	143	12.6
	Go with friends	290	25.6
	Go with parents	692	61.0
	Others	9	0.8

General information on children under 15 living in the households with respondents in community is described in Table.2. The proportions of boys and girls were equivalent, and most of them come from the age group of 6-15 and nearly 80% of children have been going to school. Among the school children, 43.4% were at school all day and spent lunch time at school, while 38% spent lunch time at home. Most children were accompanied by their parents to school. Especially, amongst 808 children from 6 to 15 years old, up to 85.4% of children were reported that they were unable to swim.

Table 3. Awareness, knowledge of parents/caregivers about drowning and drowning prevention

Awareness of research subjects about drowning high risk group		n	%
Awareness about personal factor	Age (6-15)	515	60.7
	Gender (boy)	627	73.6
Awareness about environmental factor	Location (river, natural pond/lake)	835	98.4
	Point of time during the day (12:00 – 17:00)	572	67,4
	Month of the year (From May - October)	802	94.5
Awareness about risk of drowning in children	Is the biggest factor in child drowning	543	64.0
	Lack of swimming skill	751	88.5
	Swimming at dangerous location	312	36.8
	Lack of adult's supervision	674	79.4
	Lack of fence at dangerous location	379	43.6
	Lack of drowning prevention knowledge	358	42.2
	Lack of warning signs	280	33.0
Prevention solutions	Teach swimming skill to children	782	92.1
	Strengthen children supervision	439	51.7
	Remove environmental factors	684	80.6

Overall, parents perceived well about personal and environmental factors as well as drowning prevention solutions. In detail, 73.6% of respondents knew that boys are at a higher

risk of drowning than girl. Up to 98.4% of parents correctly answered that pond, natural lake and river are high drowning risk location, and nearly 90% of caregivers were aware that the reason of drowning is the inability to swim. However, only 64% of parents acknowledged that drowning is the highest factor of child mortality and 42.2% thought that lack of drowning knowledge is a high risk factor. Prevention solutions chosen by respondents were to provide swimming lessons (92.1%), and remove environmental factors, while the solution on strengthening child supervision was selected by fewer resondents (51.7%).

Table 4. Parents' awareness about the importance of drowning prevention intervention

Characteristics		n	%
Importance of teaching swimming	Not important	13	1.5
	Less important	2	0.2
	Important	177	20.9
	Very important	657	77.4
Age starting to learn water safety skill	Under 6	514	60.5
	6 - 11 (primary school)	319	37.6
	12 – 15 (secondary school)	12	1.4
Age starting to learn swimming skill	Under 6	289	34.1
	6 - 11 (primary school)	525	61.8
	12 – 15 (secondary school)	28	3.3
The importance of pre-school child care center in children drowning prevention (children under age of 5)	Unknown	13	1.5
	Not important	39	4.6
	Less important	29	3.4
	Important	279	32.9
	Very important	489	57.6
Taking children to safe pre-school child care center (with free service)	Yes	761	89.6
	No	88	10.4

Table 4 presents the awareness of parents about the importance of the intervention of drowning prevention and the preparedness of participating in teaching swimming model and localizing safe pre-school child care center. The majority of parents/caregivers had perceived the importance of learning how to swim and safe pre-school child care center in preventing child downing. A large proportion of parents responded that the suitable age for learning water safety skill is under the age of 6 years (60.5%) and begin learning swimming skill during primary school (61.8%). Given the free service in pre-school child care center, up to 89.6% of responded parents would willingly take their children there.

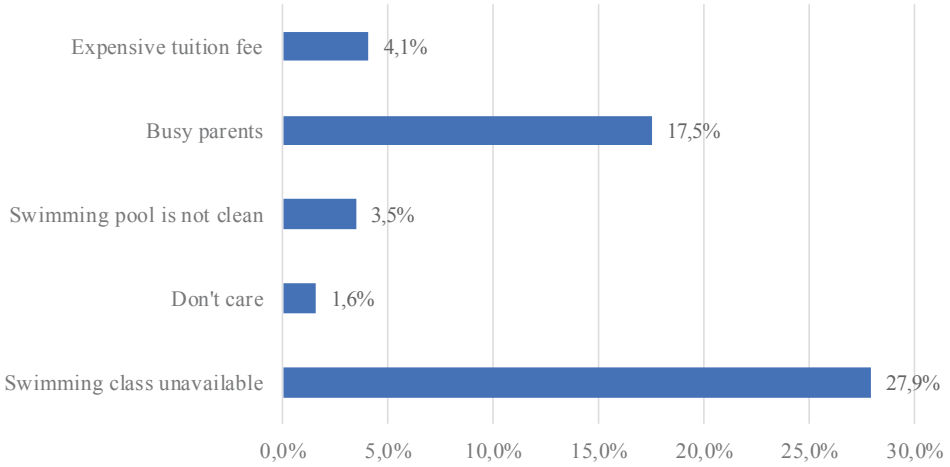

Figure 1. Reasons for not giving swimming lessons to children (N=808)

The above figure describes the reasons why research subjects had not taken their children to swimming lessons. The most common reason is due to the unavailability of nearby swimming class (27.9%) and due to the lack of parents' free time that they are unable to take their children to a swimming class (17.5%)

DISCUSSION

Research results show that parents and caregivers had well perceived the danger of drowning and had acquired basic knowledge of child drowning prevention. Regarding drowning high risk factors, the majority of respondents were aware that high risk locations are ponds, lakes, and rivers. After comparing with summaries of local drowning mortalities, the findings suit the current situation. The above results share several similarities with a research conducted in Bangladesh in 2010, that is, natural water bodies show the highest risk of drowning and more than 40% of cases occur in ponds (6). Our research points out that parents have a better awareness of 6-15-year age group who are at a higher drowning risk, in comparison with the Bangladesh research findings. However, the proportion of parents who think that setting up barricade and warning sign around dangerous locations is a crucial action accounts for nearly 50% only. This is different from the Bangladesh research findings where respondents suggested to fill up unnecessary ponds, channels, and to set up barricade for ponds and dangerous places (60). Most of parents (80%) perceived that lack of swimming skill and summer time are high drowning risk factors. In comparison with drowning data in 8 surveyed provinces, it is clear that parents/caregivers had a well awareness of drowning situation in their respective provinces.

Loose supervision of parents and community is also a high risk factor of child accidents and injuries (8). Parents had a good vision about the importance of child supervision as shown with the fact that 90% of children at the age of 3-5 had been sent to kindergartens or pre-school child care centers and 50% of children at the age of 1-3 had been sent to child care centers, and the rest were taken care of by parents, grandparents or relatives at home. 79.4% of parents shared that the lacking of adult supervision is a cause of child drowning

and nearly 90% of them saw the importance of pre-school child care centers in drowning prevention for children under the age of 5.

In reality, the majority of children at the age of 6–15 (85.4%) are unable to swim and lack of safety skills in water. Although 92.1% of responders agreed that swimming lesson is a necessary solution to prevent child drowning and more than 60% agreed that the suitable age of learning swimming is from 6-11. There is an obvious difference between the awareness of parents/caregivers of a child and the reality of the child's learning how to swim. When being asked about why they did not take the child to engage in a swimming class, the answer is that the major reason preventing parents from taking their children to a swimming course is the unavailability of swimming courses in nearby swimming pool. To review locally available swimming pools, it can be seen that the number of swimming pools cannot meet the demand of local community, with many communes having no swimming pools or far-to-reach swimming pools or unavailability of swimming lessons. Other reasons have also been mentioned, such as swimming pool sanitation, shy children or too busy parents unable to take their children to learn swimming, thus leading to a current low proportion of children who are able to swim (10).

CONCLUSION AND RESOMMENDATIONS

Research results show that parents and caregivers had basic knowledge of child drowning prevention and prepared to participate in local drowning interventions. Through the research, it is seen that the necessity of local swimming teaching is very high. However, given the current situation, the likelihood of meeting such a need is still limited. Therefore, intervention actions of the project should have prioritized targets, such as location with low percentage of children who are able to swim, or remote location without safe child care center, etc. Careful attention must be given to intervention time to meet local needs and the project capability.

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