

Analysis of Drowning Prevention Awareness and Influencing Factors among Parents of Primary School Students in Wenzhou City

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Abstract: Exploring the current status and influencing factors of drowning prevention awareness among parents of primary school students in Wenzhou City can help enhance their awareness of drowning safety. Using cluster random sampling, a questionnaire survey and data analysis were conducted on 369 parents of primary school students in Wenzhou city. Out of 369 parents of elementary school students, only 95 (25.75%) answered all 6 drowning prevention knowledge correctly, has there been any promotion of drowning prevention knowledge among them ($\chi^2=17.98$, $P<0.01$). Is there any water area on the child's way to school ($\chi^2=12.97$, $P<0.01$), whether drowning prevention knowledge is necessary ($\chi^2=20.42$, $P<0.01$), perceived distance to water around home ($\chi^2=14.40$, $P<0.05$), the frequency of children going to water alone ($\chi^2=30.58$, $P<0.01$), and whether children are educated to stay away from water ($\chi^2=11.76$, $P<0.05$) have a significant impact on the level of drowning safety awareness among parents of elementary school students. The drowning prevention safety level of parents of primary school students in Wenzhou needs to be further improved, which can be achieved through strengthening publicity and education, perceiving the dangers of the surrounding waters, and understanding whether their children go to the water alone.

1. Introduction

In China, nearly 50000 children aged 0-14 die from accidental deaths every year [1]. Repeated painful lessons have sounded the alarm for society and parents [2]. However, drowning can be recognized, prevented, and controlled. As the main guardians and educators of primary and secondary school students, parents play a crucial role in preventing drowning among students [3]. Exploring the level of awareness of drowning prevention among parents of primary school students and the factors that affect their level of awareness of drowning safety can not only enrich the research theory on improving parents' awareness of drowning safety, but also guide effective ways for parents of primary school students to prevent drowning in reality. To this end, this study conducted a questionnaire survey on 430 parents of four primary school students in Wenzhou City, Zhejiang Province during the summer vacation in July 2023. The current status of parents'

awareness of drowning prevention safety was analyzed, and significant influencing factors were identified through data analysis to improve their awareness of drowning prevention safety. This provides actionable suggestions and guidance for improving parents' awareness of drowning prevention safety.

2. Object and Method

Using cluster random sampling method, 4 primary schools in Wenzhou City were selected, and parents of primary school students were randomly selected as survey subjects in the 4 primary schools.

The parents' drowning prevention survey questionnaire refers to a self-designed survey questionnaire based on domestic literature on drowning prevention safety education, and is supplemented and improved through pre survey modifications. The questionnaire includes basic personal information of parents, factors affecting parents' drowning prevention, and drowning prevention knowledge tests. Students from the drowning prevention summer social practice team searched for parents of primary school students around four primary schools in Wenzhou to complete a survey questionnaire and submitted it on the spot.

2.1. Questionnaire validity control

Before conducting the questionnaire survey, the investigators of the summer social practice team who need to participate should receive professional training, especially for parents of older elementary school students (grandparents, etc.), to transform the questions into questions that the survey subjects can understand. If necessary, they can help parents fill them out. The collected questionnaires also need to undergo validity testing

2.2. Related definitions and indicators

The level of parents' awareness of drowning safety was measured through a questionnaire consisting of 6 questions, including: Drowning is the leading cause of death in adolescent injuries. Is this statement correct? How do you escape if your car falls into the water? What should you do if your child drowning? How to perform emergency rescue after rescuing a drowning person? Wait for 6 questions. Each question has a correct answer, with one point awarded for a correct answer and no points awarded for a wrong answer. The total score of the 6 questions is 0-2 points, indicating that parents have poor awareness of drowning safety. A total score of 3-4 points indicates that parents have average awareness of drowning safety, while a total score of 5-6 points indicates that parents have good awareness of drowning safety.

2.3. Questionnaire Secretary Analysis

2.3.1. Basic information

A total of 430 survey questionnaires were distributed and 417 were collected, with a response rate of 96.98%. Among them, 369 valid questionnaires were collected, with an effective rate of 88.49%. Among them, 369 parents of primary school students, 136 males (36.86%), 233 females (63.14%), The age range includes 81 people aged 20-30 (21.95%), 106 people aged 30-40 (28.73%), 133 people aged 40-50 (36.04%), 37 people aged 50-60 (10.03%), and 12 people aged 60 and above (3.25%). 219 people (59.35%) have a college degree or below, 136 people (36.86%) have a bachelor's degree, and 14 people (3.79%) have a master's degree or above.

2.3.2. Analysis of Parents' Awareness of Drowning Prevention Safety

Out of 369 parents, 95 (25.75%) answered 6 questions correctly and 123 (33%) answered 5 questions correctly (33%), 84 people answered 4 questions correctly (22.76%), 46 people (12.47%) answered 3 questions correctly, and 16 people (4.34%), 4 people answered 1 question correctly (1.08%), 1 person answered 0 questions correctly (0.27%); 21 parents (5.69%) with a total score of 0-2 in the 6 questions had poor awareness of drowning safety, 130 parents (35.23%) with a total score of 3-4 had average awareness of drowning safety, and 218 parents (59.08%) with a total score of 5-6 had good awareness of drowning safety. See Table 1.

Table 1: Level 1 of Parents' Safety Awareness of Drowning Prevention (n=369)

Score	Number and proportion	Safety awareness level
0	1 (0.27%)	0-2: Poor awareness of drowning prevention safety, 21(5.69%)
1	4(1.08%)	
2	16 (4.34%)	
3	46 (12.47%)	3-4: Average awareness of drowning prevention safety, 130(35.23%)
4	84 (22.76%)	
5	123 (33.33%)	5-6: Good awareness of drowning safety, 218(59.08%)
6	95 (25.75%)	

2.3.3. Analysis of the impact of different influencing factors on parents' awareness of drowning safety

There was no significant effect of different age groups of parents on the level of drowning safety awareness among elementary school parents ($\chi^2=8.25$, $P>0.05$). Different educational levels of parents have no significant effect on the level of drowning safety awareness among parents of primary school students ($\chi^2=4.86$, $P>0.05$), the gender of parents has no significant effect on the level of drowning safety awareness among parents of primary school students ($\chi^2=0.97$, $P>0.05$), the distance between home and school has no significant effect on the level of drowning safety awareness among parents of primary school students ($\chi^2=8.79$, $P>0.05$), the distance of water around the school has no significant effect on the level of drowning safety awareness among parents of primary school students ($\chi^2=10.45$, $P>0.05$), the above indicates that parents' personal characteristics such as age, education level, and gender are not the main influencing factors of parents' drowning safety awareness. At the same time, the perception of distance between home and school, as well as the perception of water bodies around the school, are not the main influencing factors of parents' drowning safety awareness level.

The acceptance of drowning prevention knowledge propaganda has a significant impact on parents' awareness of drowning safety ($\chi^2=17.98$, $P<0.01$), whether children have water bodies on their way to school has a significant impact on parents' awareness of drowning safety ($\chi^2=12.97$, $P<0.01$), Whether the awareness of drowning prevention knowledge is necessary has a significant impact on parents' level of drowning prevention safety awareness ($\chi^2=20.42$, $P<0.01$), the distance of water around the home has a significant impact on parents' awareness of drowning safety ($\chi^2=14.40$, $P<0.05$), the frequency of children going to water alone has a significant impact on parents' awareness of drowning safety ($\chi^2=30.58$, $P<0.01$), whether to educate children to stay away from water has a significant impact on parents' awareness of drowning safety ($\chi^2=11.76$, $P<0.01$).

3. Conclusions

According to the Global Drowning Report released by the World Health Organization in 2017,

adolescent drowning deaths have become the leading cause of adolescent accidental deaths [4]. About 57000 people drown in China every year, of which about 60% [5] are under the age of 14. Children under the age of 14, especially elementary school students, account for more than half of the drowning population, and parents are the direct supervisors of elementary school students. The level of parents' awareness of drowning safety plays an important role in preventing elementary school students from drowning. However, previous studies have found that corresponding intervention surveys and interviews indicate that parents have some understanding of their insufficient knowledge of drowning prevention [6]. Therefore, this study focuses on the level of parents' awareness of drowning prevention safety and the important influencing factors that affect parents' drowning prevention safety, in order to improve parents' drowning prevention level and reduce the drowning mortality rate of primary school students. The results of this study found that only 95 out of 369 parents of primary school students answered all 6 drowning prevention questions correctly (25.75%), and 21 parents (5.69%) with a total score of 0-2 on the 6 questions had poor awareness of drowning prevention safety. This indicates that parents of primary school students lack drowning prevention knowledge and have not established a baseline for the most important family defense against drowning, which is consistent with previous studies [7, 8, 9].

Further exploration into the factors that affect parents' awareness of drowning prevention safety revealed that the promotion of drowning prevention knowledge is an important influencing factor on parents' drowning prevention level. Therefore, the state have always paid attention to students' life safety education and issued a series of documents to provide certain guarantees and resource support for drowning prevention safety education [10]. Secondly, children's awareness of water bodies on their way to school and around their homes is an important influencing factor on parents' drowning prevention safety awareness. This indicates that parents' perception of the surrounding environment of primary school students is an important crisis identification, which can deepen parents' attention to their children's drowning prevention through specific environmental crisis perception. Previous related studies have shown that different lifestyles and natural environments can affect the occurrence of drowning [11]. The frequency of children going to water alone has a significant impact on parents' awareness of drowning safety, and parents' attention to children's drowning prevention should be strengthened based on their personal performance. Finally, whether to educate children to stay away from water has a significant impact on parents' awareness of drowning safety. In summary, strengthening the drowning safety awareness of parents of primary school students not only requires strengthening the promotion of drowning prevention knowledge, but also needs to combine the specific water situation of the home and school to arouse parents' crisis awareness. It can emphasize whether the child has recently been to water to further deepen parents' crisis awareness, and emphasize the role of each promotion and implementation behavior in consolidating drowning prevention propaganda.

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