Research Paper Medical Science

Drowning – An Unnoticed Leader of Childhood Morbidity and Mortality

*** Dr Saurabh Kumar Patel**	Post Graduate student, Department of Pediatrics ,Gandhi Memorial Hospital ,Shyam Shah Medical College, APS University, Rewa. MP. India. * correspondent author
Dr Jyoti Singh	MD (Pediatrics), FIAP. Associate Professor, Department of Pediatrics, Gandhi Memorial Hospital, Shyam Shah Medical College, APS University, Rewa.MP. India.
Dr H P Singh	MD (Pediatrics), FIAP. Professor& Head, Department of Pediatrics,Gandhi Memorial Hospital, Shyam Shah Medical College, APS University, Rewa.MP. India.

ABSTRACT

Drowning is one of the leading causes of childhood morbidity and mortality in developing countries often goes unnoticed as compared to communicable disease deaths. In 1997, drowning was described as "the final frontier of injury prevention", because of the scarcity of evidence for the effectiveness of intervention strategies. Since that time, though, a certain amount of progress has been made. A 2005 assessment of the data supplied by WHO's 192 member countries, 114 had either no drowning data available or no data more recent than 1990 to report. It is one of the most tragic condition seen in paediatrics and the fact that most episodes are preventable by simple measures add to the tragedy. Having established that drowning is a significant and preventable cause of death in children, we need to focus on this neglected matter into one that is addressed at national and international levels.

KEYWORDS Drowning, Unnoticed, Morbidity

Introduction:
Water is one of the body's most essential nutrients. People may survive many weeks without any food, but they couldn't live more than a week or so without water. That's because water is the cornerstone for all body functions. It's the most abundant substance in the body, accounting for up to 75 percent of body weight. Water, though, can be dangerous. A small child can drown in a few centimetres of water at the bottom of a bucket, in the bath, or in a rice field. Drowning was defined by World congress on drowning and WHO (World Health Organisation) in 2000 as "Drowning is the process of experiencing respiratory impairment from submersion / immersion in the liquid. In most countries around the world, drowning ranks among the top three causes of death from unintentional injury, with the rates highest among children under five years of age.

Magnitude of the problem:
Drowning represents the second leading cause of unintentional injury death in children less than 19 years. The global mortality rate it 6.8 per 1000000 person – year. Global estimates may significantly underestimate the actual public health problem related to drowning. Low- and middle-income countries account for 96% of unintentional drowning deaths. China and India have particularly high drowning mortality rates and together contribute 43% of the world's drowning deaths and 41% of the total global DALYs (disability adjusted life years) lost related to drowning.

Risk Factors:
Drowning is an injury that displays epidemiological patterns that change according to age group, body of water and activity. In most countries around the world, drowning ranks among the top three causes of death from unintentional injury, with the rates highest among children less than five years of age. Nearly 80% of people who die from drowning are male. Drowning can happen quickly and quietly anywhere there is water (such as bathtubs, swimming pools, buckets), and even in the presence of lifeguards. It is found that Bath seats/rings are associated with an increasing number of reported infant drowning deaths. The use of such products may increase the risk of drowning among infants by increasing the likelihood that an infant will be left alone in the tub. Increased access to water is another risk factor for drowning. Children who live near open water sources, such as ditches, ponds, irrigation channels, or pools are especially at risk. Alcohol use, near or in the water by adolescents, medical conditions, such as epilepsy are other conditions responsible for it.

Treatment:
The most important step in the rescue of a drowning victim is the immediate institution of resuscitation measures. If the victim is far from the shore as in case of natural water downing, resuscitation must be instituted where the victim is retrieved. The goal should be to prevent damage to the nervous system due to lack of oxygen supply as central nervous system injury is the most important determinant of outcome. Prompt and effective management of hypoxia and acidosis is the key determining factor. The success or failure of CPR (cardiopulmonary resuscitation) at the site of accidents often determine the outcome.

Maintain the victim's airway, breathing and circulation which is the goal of BLS (Basic Life Support) by anyone who is trained or aware of its principles. Do not panic to drain the water out of lung or stomach as water from the lungs will be absorbed later and there may be risk of aspiration of stomach contents. Check for associated injury / trauma if any. Take the patient immediately to the emergency room and hand over to the specialists. We are not going to discuss the emergency room and intensive management of a drowned victim. The management there are aimed at prevention of hypothermia and im-

proving tissue oxygen delivery as rapidly as possible.

Although the factors that put the children at risk of drowning are increasing well defined, the treatment of drowning has not advanced. The clinical course and outcome for a submersion victim are determined by the circumstances of the incident, duration of the submersion, speed of rescue and effectiveness of the resuscitative efforts.

Prevention

Drowning prevention strategies should be comprehensive. There should be development and implementation of safe water systems, such as drainage systems, piped water systems etc. There should be a responsible adult to watch young children while in the bath and all children swimming or playing in or around water. Education of parents and children is a key variable in drowning prevention. Knowledge about water safety is centered Around three important concepts: (a) supervision, (b) barriers, and (c) emergency procedures. Prevention is the most important steps to reduce the impact of drowning injury, followed by early initiation of the CPR at the scene. Having established that drowning is a significant and preventable cause of death in children, we need to focus on this neglected matter into one that is addressed at international and national levels.

REFERENCES

• Bulletin of WHO / Nov. 2005;83 | • Coffman SP. Parent education for drowning prevention; J Pediatr Health Care. 1991 May-Jun;5(3):141-6. | • Fandel I, Bancalari E. Near drowning in children: Clinical aspects. Pediatrics 1976;58:573-80. | • http://www.who.int/mediacentre/factsheets/fs347/en/; Drowning; Fact sheet N°347 | October 2012 | • Laosee, OC, Gilchrist, J, Rudd, R. Drowning 2005-2009. MMWR 2012; 61(19):344-347 | • Lee LK, Thompson KM; Parental survey of beliefs and practices about bathing and water safety and their children: guidance for drowning prevention; Accid Anal Prev. 2007 Jan;39(1):58-62. Epub 2006 Aug 22. | • Linnan M., Rahman A., Scarr J., Reinten-Reynolds T., Linnan H., Rui-wei J., Mashreky S., Shafinaz S Bose S., Finkelstein E., Rahman F. Child Drowning Evidence for a newly recognized cause of child mortality in low and middle income countries in Asia, Special Series on Child Injury 2012; Office of Research Working Paper WP-2012-07; UNICEF May 2012. | • Peden MM, Mcgee K, Krug E, eds. Injury; A leading cause of global burden of disease, 2000. Geneva, Switzerlnd: World Health Organisation; 2000. | • Peden MM, Mcgee K, Krug E, eds. Injury; A leading cause of global burden of disease, 2000. Geneva, Switzerlnd: World Health Organisation; 2000. | • Pelletier AR, Gilchrist J. Fatalities in swimming pools with lifeguards: USA, 2000-2008. Injury Prevention, 2011;17:250-253. | • Pless IB. Th e challenge of drowning prevention. Injury Prevention, 1997, 3:237–238. | • Rauchschwalbe R, Brenner RA, Smith GS; The role of bathtub seats and rings in infant drowning deaths. Pediatrics. 1997 Oct;100(4):E1. | • U. S. Consumer Product Safety Commission. Submersions related to non-pool and non-spa products, 2011 report.[online]. [cited 2012 May 9]. Available from URL:http://www.cpsc.gov/LIBRARY/FOIA/FOIA11/os/nonpoolsub2011.pdf |