

Background drowning is the leading cause of death among children in Bangladesh and claims the lives of 18,000 children each year. The southern coastal city Cox's Bazar is one of the largest sandy beaches in the world & has become a popular tourist destination over the last decade. In 2014 full time Lifeguard services were implemented with the support of RNLI, UK. This presentation describes the effectiveness of the first 6 months lifeguard services in the Cox's Bazar beach.

Objective assessment of the lifeguard services in management of drowning casualties provided by low resource setting lifeguards in Cox's Bazar beach Bangladesh.

Methodology with the support of Royal National Lifeboat Institution (RNLI) the International Drowning Research Centre, Bangladesh (IDRC-B) developed a beach lifeguard program called SeaSafe. Since July 2014, 10 paid lifeguards have been employed to provide lifeguard services on Cox's Bazar beach. All lifeguards were also trained in First aid and CPR to provide support in medical emergencies. To record daily incidents reporting forms and tools were developed.

Results collected data from 25th of July 2014 to 25th of January have been analysed. In total 56 casualties were rescued from the sea – 51 male and 5 female. Adolescents were found to be the most vulnerable group. 80% of all rescues were conducted in the lifeguarded zone, between the red and yellow flags. Nearly 62% of incidence was due to rip currents. About 54% of casualties were using inflatables far from shore before being rescued. Lifeguards used surf boards or rescue tube in 84% of rescues. Among the casualties 88% were not from the Cox's Bazar area.

Conclusion lifeguarding is an essential part of any tourist beach, a lot of lives can be saved by providing lifeguard activities. Further long term research is needed to establish an effective lifeguard system in low resources setting.

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819 DROWNING IN UNDERGROUND CISTERNS IN CHILDREN LIVING IN GUADALAJARA, JALISCO, MEXICO. 2009–2011

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Background The drowning in children from 1 to 4 years old is a public health problem worldwide which ranks first and second in mortality by injuries. In Mexico it was the primary cause from 2010 to 2012. In Jalisco, underground cistern represents the body of water where 57% of drowning occurs in children under 5. This study aims at analysing the risk factors of drowning in cisterns in children between 1 and 4 years old residents of the metropolitan area of Guadalajara (ZMG), Jalisco, Mexico.

Methods Case studies and controls conducted in children between 1–4 years, who died by drowning in the cisterns of the house (cases) and children of the same age, neighbours of victims (controls). Age and sex of the child were studied; parental characteristics; housing and water cisterns. Analysis was conducted using percentages, Odds ratio, Fisher exact test and multiple regression.

Results 29 deaths by drowning in cisterns in children between 1 and 4 years residents of the GMA. 119 controls. Age of cases

showed an OR 3.2 and 2.2 in children aged 2 and 3, with respect to 4. Gender predominance of men. The majority of parents are aged between 20 and 29 and with middle school education or lower. Households have domiciliary services and incomplete finish techniques (cases); better conditions in controls. Cisterns without metal cover uninsured OR of 5.3 and 2.5, respectively; cover located in space passing through the households OR 3.5 (cases). Manual water extraction pump in cases regarding controls gave a $P \leq 0.002$, statistically significant.

Conclusions The absence of an electric pump is statistically associated with mortality from drowning in the study group. Not having metal lid and the safety of it, keeping it uncovered and its location inside the house, also demonstrates the relationship with drowning but without statistical significance.

820 ANCHALS WITH EARLY CHILDHOOD DEVELOPMENT—AN INTEGRATED INNOVATION FOR DROWNING & INJURY PREVENTION

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Background The burden of child drowning in Low and Middle Income Countries (LMICs) had become a major new public health issue. Drowning is the leading cause of death in children 1–17 yrs in Bangladesh and other LMICs. Drowning prevention recently emerged as a priority public health intervention focus. The highest drowning mortality rate is less than 5 yrs of age.

The Bangladesh Anchal and SwimSafe (BASS) Child Drowning Prevention Research introduced low cost child interventions that are culturally appropriate, community based, safe and effective, using a life-cycle approach. A capable host nation NGO delivered Anchals (daycare) for ages (9 mo–4 yrs). Anchals create a safe haven and community health clinics for children at greatest drowning risk.

Methods Community-based Participatory Research was undertaken in a rural community under injury surveillance. The partners in the research are UBC, CIPRB, TASC and RLSSA. The interventions included Anchals, SwimSafe, First Responder/CPR and community engagement.

Results 40 Anchals operated 6 days/week, 9am–1pm for 1032 children age 9 mo–4 yrs with 854 siblings and 2640 adult family members. ECD screening, immunisation and breastfeeding review was achieved after support training. 20% of the children had moderate or severe malnutrition. Immunisation rates exceeded 90%. Mothers accepted Anchal Ma's inquiring about breastfeeding. Children with deficits were connected to resources. There is reduced non-fatal injury rates in Anchal participants. Training and certification of Anchal Ma's improved their capacity. Parent concerns for child growth and development measures were improved by elders education/reassurance.

Conclusions Anchals provide a safe haven which reduces non-fatal injuries in children attending. Integrated ECD in Anchals increase health connexions for children in need. Additional training, certification and elder support for the employed Anchal Ma's elevates their status and community capacity.