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## Survey of the highest causes of morbidity and mortality due unwanted events and accidents in children under five years

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### ABSTRACT

Today, morbidity and mortality due accidents are the second leading cause of death for children. According to the results of researches, the causes of hospitalization of many children are ignorance of the parents. After car accidents, drowning, airway obstruction by solid food and reflux back into the throat and lungs, burning with hot materials and fire, accidental poisoning and drug substances, falling from the height are other causes of morbidity and mortality in children under five years. Considering these issues, the researchers intend to survey the most common cause of morbidity and mortality rate due unwanted events and accidents in children under five years (2010-2015). This is a retrospective - cross sectional study which investigated the causes of deaths under five years from 2010-2015. The questionnaire of child mortality of Ministry of Health, Treatment and Medical Education was used by trained experts to collect data. Then collecting data were tabulated, entered in SPSS version 20.0 and analyzed by statistician. The results showed that the number of deaths in children under 5 years was 144 children in 2010. The greatest cause of death as suffocation in water was 4% and 2% due to vehicle crashes, burns 2% and 1% was due to milk aspiration. Children morbidity and mortality rate was 114 children, 3% due to suffocation in water and 2% due to accident in 2011. The mortality rate of children was 138 which 6% of child deaths due to suffocation in water, 4% due to accident, 3% due to burning and 3% due to suffocation under breast feeding in 2012. The number of child deaths was 146 which 4% due to suffocation in the water and 2% were due to suffocation under breast feeding in 2013. Accidents due to unwanted events usually happen due to brief parents. Instead of that the consequences of those unwanted events and fall are the innocent children for suffering and disability.

**Key words:** Mortality and morbidity, Death, Children, Accidents, Unwanted Events.

### INTRODUCTION

The mortality rate of children under five years can be considered as one of the most important indicators of the health of any country which it depends on various factors of social and economic situations [1, 2]. Annually, nearly 11 million children in the world, every day 30 thousand children and every minute 20 children die before age five. These deaths are mainly occurred in low-income and middle-income countries, especially in sub-Saharan Africa and South Asia [3]. Millions of children die from preventable accidents. Burns, poisoning, falls and trauma (accidents) are four main causes of children mortality and morbidity. The major domestic events were included: burning caused by contact with hot liquids, cuts with sharp objects, fracture due to falls, poisoning, electrocution, foreign body ingestion [4].

Accidents and events are the cause of half of all deaths in children, so that from every six children admitted to a children's hospital emergency rooms, one is due to accidents [5]. The World Health Organization (WHO) reported that millions of deaths which occur in children under five during a year. More than half of them are from conditions

that are simple and cost-effective interventions can prevent its occurrence or to treat them. The main cause of deaths in children less than 5 years were pneumonia, complications of premature birth, asphyxia at birth, diarrhea and malaria as reported by WHO[6,7]. Bayat et al. have investigated the most important causes of accidents in children. They have mentioned that accidents and events are of the most important threatening factors for human health and the most common of children deaths were preventable. Their findings demonstrated that the most common causes were fall from height and poisoning [8].

Children play an important role in the keeping of God values and Islamic customs of a country and maintain their health and security should be a priority national health programs. One of the main responsibilities of parents and caregivers is prevention of accidents in children. The health officials and parents can prevent the occurrence of many of these events by identifying hazards and accidents that threaten children's health and planning appropriate strategies. Children pay attention to their parents' behaviors in the perception of cleverness and ability. If they cannot see these behaviors in them, their self-esteem could not improve. Children perceive everything in reality [9]. In this study, the researchers intended to investigate the most common cause of children mortality and morbidity rate due to accidents and unwanted events in under five years. This indicator (decreasing the child's death rates) has great effect on the human development index through increasing in life expectancy at birth. Therefore, it is necessary to take some measures to reduce the rate of accidents such as raising awareness of parents about the signs and symptoms of gastrointestinal and respiratory diseases as well as effective measures to care for newborns and their mothers, infants and children nutrition, vaccination, management in treatment of diseases control such as diarrhea and pneumonia can be effective in reducing the rate of children deaths.

### MATERIALS AND METHODS

This is a retrospective - cross sectional study which investigated the causes of deaths under five years from 2010-2015. The questionnaire of child mortality of Ministry of Health, Treatment and Medical Education was used by trained experts to collect data. This questionnaire had six sections which filled it out according to disease progress till death of child.

**Part A:** For children from 1 to 59 months to investigate the deaths reported by the death registration system

**Part B:** For checking the overall family health and illness records from 1 to 59 months, which consists of two parts:

**B1:** Death rate due accidents B2: Death due non-accidents.

**Part C:** Overview of past history for examination (outpatient medical interventions) for dead.

**Part D:** Overview of overall past history (medical services) for hospitalized dead from 1 to 59 months that itself had two sections:

**D1:** Through Family D2: Through Hospital Staff.

**Part E:** Overview the Accident by helping group

**Part F:** Check list of Committee for exploring the cause's deaths in children from 1 -59 month.

Researchers observed the records of death cases. They have written and extracted the needed information especially information of children morbidity and mortality under five years.

Then collecting data were tabulated, entered in SPSS version 20.0 and analyzed by statistician. They used statistical tests like X<sup>2</sup>, T-test.

### RESULTS

The results showed that the number of deaths in children under five years was 144 children in 2010. The greatest cause of death as suffocation in water was 4% and 2% due to vehicle crashes, burns 2% and 1% was due to milk aspiration. Children morbidity and mortality rate was 114 children, 3% due to suffocation in water and 2% due to accident in 2011. The mortality rate of children was 138 which 6% of child deaths due to suffocation in water, 4% due to accident, 3% due to burning and 3% due to suffocation under breast feeding in 2012. The number of child deaths was 146 which 4% due to suffocation in the water and 2% were due to suffocation under breast feeding in 2013 (table 1).

Table (1): Frequency of patients admitted due to accidents per year in children under 5 years in Years 2010-2013

years	Type of accident	number	percent
2010	suffocation in water	5	4%
	vehicle crashes	3	2%
	burns	3	2%
	milk aspiration	2	1%
	Other causes(congenital malformation, respiratory diseases, Gastrointestinal infections and etc)	131	91%
2011	suffocation in water	3	3%
	vehicle crashes	2	2%
	Other causes(congenital malformation, respiratory diseases, Gastrointestinal infections and etc)	109	95%
2012	suffocation in water	8	6%
	vehicle crashes	5	4%
	burns	4	3%
	suffocation under breast feeding	4	3%
	Other causes(congenital malformation, respiratory diseases, Gastrointestinal infections and etc)	117	86%
2013	suffocation in water	6	4%
	suffocation under breast feeding	3	2%
	Other causes(congenital malformation, respiratory diseases, Gastrointestinal infections and etc)	137	94%

### DISCUSSION AND CONCLUSION

The most cause of death in children under five years have been the preventable accidents [10]. In our country, It has reported that one of the major causes of children's' deaths were accidents and unintentional events (20.5%). Moeini et al. investigated the extent and causes of child mortality in rural areas of Ardabil in North-west of Iran. Their findings showed that the second cause for children's' deaths was accidents after congenital abnormalities [11]. According to the findings of this study, the most common cause of death in children under 5 years was suffocation in water and in next was accidents. Nekoeimoghadam et al.[12] in a study that investigated the fatal accidents in children less than years years of Kerman city, the most common accidents for children were : trauma(39.67%), poisoning(20.67%), falls from height(15.11%). While in current study, the most common cause for death from accidents were: suffocation in water (17%), crash with car (9%), burning (6%), asphyxia during breast feeding(5%) and aspiration(1%) during 2010-2014. Makarem et al. conducted a research on referred children under 5 years due to occurrence of accidents and events into Emergency center. Their findings showed that the most common accidents were trauma, falling and, burning [4] which in this research, only the cause of burning is comparable with our research. Bayat findings showed that the most etiology for injury, were falling from height (32.5%) and poisoning (26.7%) [8]. Gulliver study results has showed that the most cause for children under 5 years hospitalization were: falling from Height, poisoning, and cuts which these results are that are inconsistent with the results of our study [13]. The results of current study showed that the cause of accidents was burning (9%) in children that it is consistent with Kai-Yang study results [14]. Shahraki Vahed et al. reported that the most cause of children death from 1-59 months was accident and events (27%)in 2007 and in among accidents , traffic accidents has included the most cause [3]. Another research in US has showed that more than 2,355 children injured due to traffic accidents and death [15]. In current study, the results showed that the most common etiology for children death was car crash after suffocation in water.

The difference in results of our study with the results of other studies may be due to different environmental, cultural conditions and family structure. The study results can be concluded that most accidents occurred because of neglect, ignorance and unawareness of parents. In this regard, the study results of Khalkahali also showed that Females' illiteracy is the most important factor in raising the child mortality and morbidity [16]. Based on Namakin and Sharifzade results, it has seen a significant relationship between deaths of infants under one years with father's literacy [17]. In another study, there has been a significant statistical relationship between parents' literacy with infant mortality rate [18].

Children mortality and morbidity is one of the indicators for national health and then, it indicated the health condition promotion in community. It is very necessary to know and identify the major causes of death in this age group.

The results of current study and others have showed that the children under five years are exposed with accidents and events like suffocation in water, car crash, burning, poisoning and falling. Hence, extending and developing parents and family's' knowledge and literacy are necessitated to decrease children death and promotion of their health level. It could prevent children death through formal training and planning in the field of risk factors about children care and children mortality can be prevented.

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