EPIDEMIOLOGY OF INJURIES AMONG PRESCHOOL CHILDREN IN ALEXANDRIA

THESIS

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DISCUSSION AND JUDJMENT COMMITTEE

The vice-president for higher studies and research of Ain-Shams University has approved to form the following commmmittee for the discussion of Mr Hala Ebrahim El Gammal

1- Prof. Dr. Kadry Hafny. Head of social and psychological Department Institute of post Gnaudate childhood Studied A in Shams University — chairman

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3 Prof Dr. Said Abu Ali Prof. of pedicotrices. Alex. University. — Member

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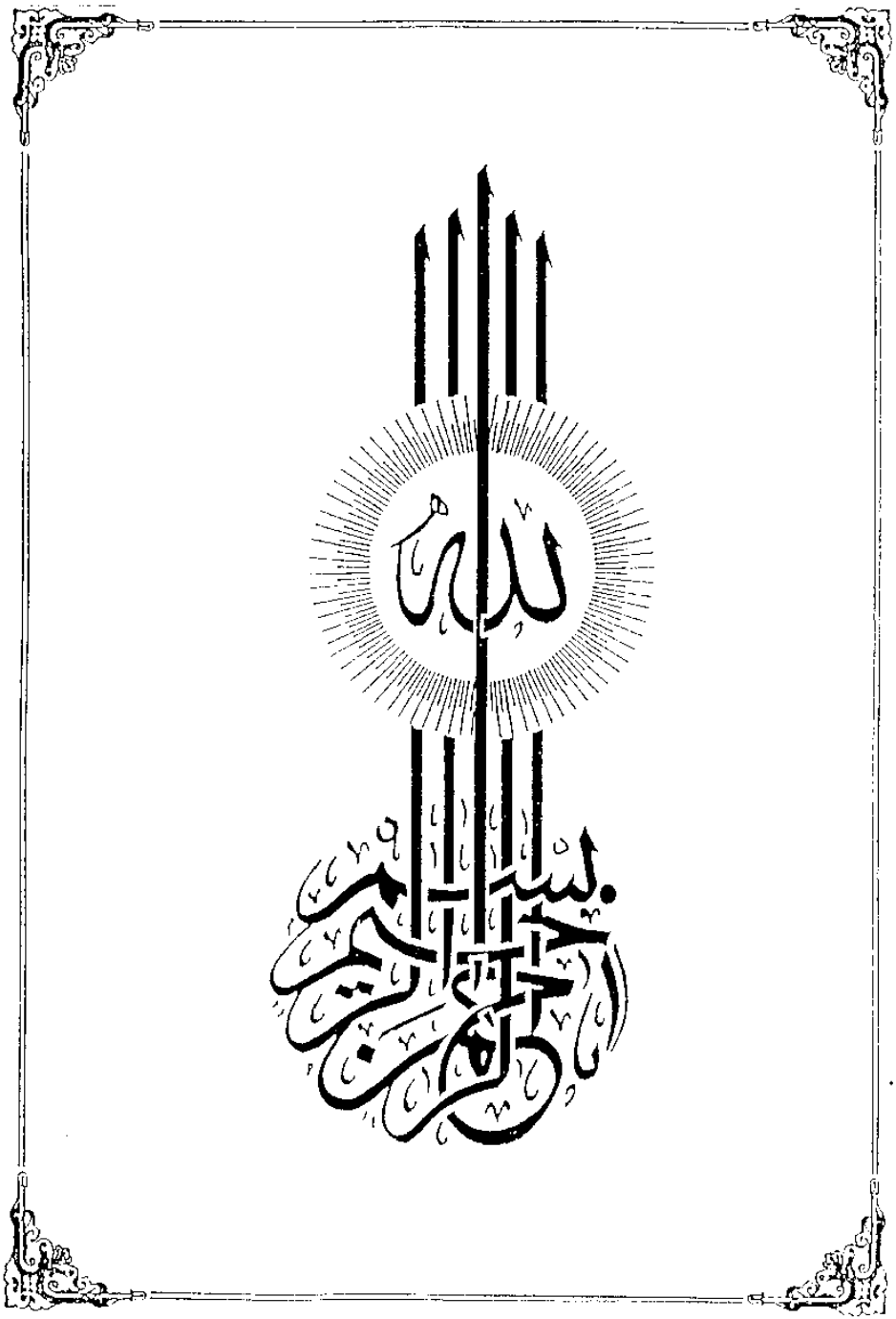

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DEFINITIONS :

Accidents are unintentional events that result in injury or death[4]. According to the meeting of the Advisory Group On Prevention of Accidents in Childhood in Geneva (1956), the term "Accidents" refers to "an unpremeditated event resulting in a recognizable injury"[90]. Another definition was stated by Litman in 1974 as a Bodily injury that requires medical attention, and is not the product of disease[50]. In the International classification of diseases (ICP)[91] the term accident was used in the supplementary classification of external causes of injury and poisoning. These were classified into railway accidents, motor vehicle accidents, accidental falls, accidental poisoning and accidents caused by fire, suffocation and other causes. On the other hand, the term injury was in classifying lesions according to their nature and site. Young children are more prone to accidents such as burns, poisoning etc.., because of their developing locomotor system together with their hyperactivity, curiosity lack of experience and inquisitive nature[62].

INJURIES AND ACCIDENTS :

The term accident has reflected both lay and professional attitudes toward nonintentional injuries for many years. Accident has a number of connotations, one of which is the idea of randomness, the notion that injuries occur without pattern. Indeed, the dictionary defines an accident as an event that happens without design or by chance[32].

Randomness implies that every member of the population has an equal chance of being affected. However, although injuries are statistical events, in a sense of being relatively rare events occurring in a population, it has been known for many years that certain groups have more injuries than others, and that

the nature of the injury varies with age, sex, and a number of other factors. Not every member of the population has the same probability of being injured and therefore, injuries are not random events. As Doege has stated "an injury is not accident"[26].

Past attitudes towards "accidents" have focused on the concept of fault and negligence, an approach under-scored by the fact that the prevention of the problem in adults has been attempted through punishment of those who are guilty. This approach has been unsuccessful in decreasing traumatic deaths. The net result has been to blame the victim rather than searching for appropriate ways to prevent the problem[69].

The term injury will be used instead of accident to denote the damage resulting from actual exposure to physical and chemical agents. The use of this term allows separation of the events from their consequences and fosters the application of a scientific approach to the injury epidemic[32].

The word accident conveys a sense of defeat, of helplessness of bad luck. Use of the words injury and injury control suggests a more focused, scientific and active attack of the problem[40].

The term "young children" was introduced by the WHO and UNICEF (1974) as a substitute for the preschool period. This term has been accepted as the age period from birth up to fifth year of life[89]. Later in 1977 Morly[55] used the term "the under -five child". This term has the advantage of not setting a lower limit for this age period thus retaining the concept of continuity of care from birth to the early childhood[6].

Children under five constitute an important segment of the population as they represent about one fifth of the total population in developing countries[38,39].

In the young child, increased motor activity, increased curiosity, impulsiveness and immature judgment skills are

important aspects of repeated accident The young child's mind a single focal orientation[11].

MAGNITUDE OF THE PROBLEM :

Accidents constitute a major public health problem especially in developed countries[90]. Accidents are the most important problem in social pediatrics today. Injuries claim the lives of more children each year than the other disorders and produce injuries that require medical attention for one in three children[57].

Accidental injuries are the chief cause of death between children in all industrialized countries their frequency is increasing. In developing countries where communicable diseases and malnutrition are the prime cause of death, the number of fatal accidents is still high although deaths from accidents are last among the other causes which are statistically more numerous[44].

Morbidity from accidents is much less well known even in countries which possess reliable statistics. It is estimated that from every child who dies accidentally, there are between 200 and 900 non fatal accidents[44]. Other studies have shown that every year between 10 % and 20 % of all children consult a doctor as a result of accident[85].

Beyond morbidity, residual handicaps must also be taken into account. In developing countries this aspect still more disquieting; the socioeconomic cost of serious sequellae is quite intolerable and facilities for rehabilitation are quite inadequate[76]. So, accidents not only cause a phenomenal number of deaths and disabilities but also create an exorbition financial loss[32].

In Europe, there were inevitable prominence of accidents in the child mortality which may be the new and dangerous hazard introduced into many homes and countries by modern technological progress. The speed of electrification especially in rural areas, the introduction of highly potent insecticides, the increasing numbers of motor cars and bicycles on roads[90].

In Sweden, accidents are the cause of 40 - 50% of death between birth and 14 years and half of these are traffic accidents[25].

in the United States today, injuries are the greatest cause of morbidity and mortality in children. During the childhood, injuries account for more deaths than the other causes. With the advent of immunizations, antibiotics and now effective chemotherapeutic agents for the most important cause of childhood disease, disability and death [31].

The annual frequency of accidents in developed countries range 10% to 20% for children between the ages of 0 and 14 years. In developing countries on the whole there are neither routine statistics statistics such as hospital morbidity data nor global surveys to assess the part playing accidents in the demand for health services. However, studies describing the nature of these accidents and their victims have been carried out[44].

Some studies in developed countries reported rates much higher than 20%. A retrospective study in England showed that amongst a total sample of 23135 children suffered about 60.0 of 1000 children from accident in the first five years[19]. A recent study in England also reported accident rates ranging from 36.8 per 1000 children under 5 years to 40.2 per 1000 children from other countries[19].

A Community based study in the city of Gothenburg, Sweden reported 317 injuries in 6753 preschool - aged children attending day care centers during a 12 month period with a country annual incidence of 46.9 injury incidents for 1000 child/ year[24].

The annual incidence calculated in a very recent retrospective cohart study in day care centers in America was 19.7 injuries per 1000 child years which is lower than that reported in Sweden[20].

Most accidental deaths of children younger than 5 years of age occur within the home. In England and Wales, the causes of

accident deaths are preventable in age 1 - 4 years and are mainly due to accidental taking of medical tablets of capsules[57].

The external causes of death in age group 1 - 4 years in Brazil represent 7 % of reported deaths, mostly from accidental poisoning[57].

In Egypt, although there is marked reduction in mortality rate in general, accidents mortality raised from 20 per 100,00 population in 1972 to 25 per 100,000 in 1982. Walloca (1981) mentioned that in Egypt in 1971 the five major causes of death in age 1 - 4 years were bronchitis, influenza and pneumonia, measles, accidents and all other external causes[57].

Mortality from accidents reveals only a small fraction of the childhood accident problem[6]. It is not only as a cause of death that accidents in childhood are important. Accidents are also the leading cause of child disability. For every accidental death, 100 children are seriously injured[25]. The number of non fatal accidents is very much larger between 100 -200 times greater and by some estimates even more. This gives some indication of the suffering and prominent disablement of disfigurement that is involved[90].

Many of the injuries are slight, relatively trivial and need no medical attention but a proportion is severe enough to lead to disablement[43]. It has been estimated that about 50 millions of the world 's children seek medical attention each year on account of accidents[43].

An accident which produces injury is rarely caused by a single identifiable factor. Series of events must coincide in time and place the undesigned event to occur.

Methods for analyzing accidents have been devised involving examination of the environment in which the accident occurred, the agent involved in the injury and behavior of the victim. Risk factors can be assigned to each component of the equation making it more less liking that a person in a particular situation will

suffer an injury. Knowledge of these risk factors is helpful in order to plan for preventive measures[27].

It is now recognized that each accident has a host (the affected person), an environment (the external circumstances)[35], and an agent (the direct cause)[29] or the effective cause of the event[28].

FACTORS AFFECTING THE HOST

AGE :

Different problems occur at different stages of a child's development[35]: from 1 - 4, the toddler normally is able to walk in erect posture, can go up and down stairs, has great curiosity, and puts almost every thing in mouth[11] than child is able to open doors, can run and climb, investigates closets and drawers, and can throw balls and other objects.

Similarly, typical accidents met with in this age group are: falls, drowning, ingestion of poisonous substances, burns and motor vehicle accidents[11]. From 5 - 9 years, the child is daring and adventurous, his control over large muscles is more advanced than control over small muscles, and has increasing interest in group play. Typical accidents that frequently encountered in this age group are motor vehicle accidents, bicycle accidents, drowning, burns and firearms[11].

SEX :

Generally, boys are more accident- prone than girls, and their death rate from accident is twice that of girls[35].

Lawson et al in 1983 observed that boys were in excess of girls in the ratio of 1.4: 1[35].

In every country, the mortality from road traffic accidents at the age of 1 - 4 years is higher in males than females[35]. According to the report of advisory group (Geneva 1956), the aggregate accident mortality in the European region showed that the rates for boys are double or triple those for girls at most ages, and there was a marked predomonance among boys of injuries associated with out - door activities, and among girls of burning accidents caused through the wearing of flammable clothing[90].

Backer found no significant sex difference in motor vehicle-related deaths among infants or young children[10], where as